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PENNSYLVANIA GAME NEWS

JANUARY 1963



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COVER PAINTING BY TAYLOR OUGHTON

Nobody seems to talk about them much, but squirrels are one of the top game species. In the last five years, Pennsylvania gunners have bagged over 10 million bushytails, making them second only to rabbits in the state's total harvest. Most of these doubtless were taken with shotguns while primarily hunting other game; however, the rifleman who likes the challenge of a small target and difficult shooting conditions finds that squirrel hunting fills the bill as well as any other sport. It demands the utmost in super-accurate equipment and precise shooting. Try it. It's a great winter challenge.

Looking Backwards

ONCE AGAIN IT'S NEW YEAR'S, the time when most people pause a minute to try to anticipate what the next twelve months will bring, and also look backwards, reviewing the past year's activities. Here are some of the things which involved the Game Commission's interests during 1977:

A new winter feeding policy stressing population controls and habitat management . . . about 4 percent of Pennsylvania's hunting license buyers were surveyed regarding their small game harvest . . . licensed raw fur dealers bought 15,667 pelts valued at \$4,157,515 (a new record) from Pennsylvania trappers . . . whitetails reported harvested during the previous season totaled 122,033 (64,084 antlered and 57,949 antlerless), including 3,648 by archers and 340 by muzzleloaders . . . the bear harvest numbered 605 . . . PGC Executive Director Glenn L. Bowers was elected first vice president of the International Association of Fish and Wildlife Agencies . . . the Game Commission adopted a new deer management policy which continues to permit adjusting the herd size to fit changing preferences and conditions and also fully considers the needs and desires of an increasing human population . . . indicated interest in creating a bear hunting license . . . elected C. Clair Winter, Everett banker, president . . . PGC personnel removed 24,183 roadkilled deer from the state's highways . . . prosecuted 11,108 Game Law violations and collected penalties of \$496,624, both totals new records . . . sportsmen had good goose harvests at Pymatuning (2,914) and Middle Creek (1,429) during the previous season . . . delayed the opening of antlerless season so deer would move out of deep woods and become more accessible to hunters . . .

Conducted the 41st annual taxidermy exam . . . tagged 3,227 beavers taken by Pennsylvania trappers . . . urged everyone to "leave wildlife babies in the woods" . . . hosted approximately 350,000 visitors at Pymatuning and 175,000

Middle Creek visitors' centers . . . noted that dogs took a heavier-than-normal toll of deer (690) . . . publicized three Keystone State areas where steel shot will be required for waterfowl hunting . . . received a record \$3,430,486 as Pennsylvania's share of Pittman-Robertson wildlife restoration and research funds . . . compiled statistics which showed that 1976 was the state's safest hunting year . . . continued to trap and transfer wild turkeys to increase this trophy bird's range . . . expanded the hunter education course to six hours . . . selected the members of the 17th class of game conservation officer trainees . . . were informed that Pennsylvania still leads the U.S. in hunting license sales . . . established a new record by stocking 210,600 pheasants from Game Farms in the fall . . . distributed over \$237,500 to local governmental units in lieu of taxes on State Game Lands . . . produced over 3 million seedlings by planting by landowners and sportsmen . . . expanded the SPORT (Sportsmen Policing Our Ranks Together) program . . . operated in celebrating National Hunting & Fishing Day . . . alerted hunters to the need for a hunting license fee increase . . . released 6,750 turkeys in the wild . . . approved the purchase of 686 acres of land for public use . . . set up seven deer check stations (an increase of one) to monitor health and physical makeup of the herd . . . estimated that hunters took over 34,600 antlered deer on the opening day of 1977's season—a new record.

That's how it was in '77. Did you remember? Have a good New Year.—*Bob Bell*





THE 8-POINT SPIKE

By Clarence M. McDowell

IT WAS A PERFECT October morning. There was just enough of a freeze so that the woods were not lethally still. The first day of vacation that I take each year in archery season had finally arrived, but I stood restless and bored in my tree stand. There was no doubt in my mind that the morning would pass fruitlessly. I had seriously considered trying another spot where I had located a fairly large concentration of deer, but I knew my partner was looking forward to hunting from the same stand where he had taken a nice point the year before.

Bill Schlagel lives in Muncie, Indiana, and makes a pilgrimage to Pennsylvania each October to hunt with me. The year before, on the Friday of the week we had hunted together, he had hit one of his cedar shafts tipped with a black Diamond hunting point through the lungs of a 6-point that hit 122 pounds hog dressed. The buck had run about 50 yards and fallen. Bill stayed in his stand for about an hour, and another smaller buck walked past while he was waiting. When he went home I'm sure he was convinced I had placed him on the best stand in Pennsylvania, especially since he knew I had taken a smaller buck from the same spot the year before.

The winter had been rough, however, and I had spent several evenings scouting the normally heavily traveled trails without finding much sign and without noting a single rub; nonetheless, the telephone conversations I had with Bill during the previous few weeks revealed his anxiety to get back on that tree stand. I knew he wouldn't be satisfied until he saw for himself that the deer just weren't in the same place this year.

At 9 a.m., I decided to make a circle through some crabapple trees and perhaps drive some deer past Bill's stand. As I walked an old roadbed to the back end of some overgrown fields,

I was oblivious to the woods and to my reason for being there. I was dead sure that this year our bucks would have to be taken somewhere else. Then some brush snapped. My head instinctively swung around. There he was, not 50 yards away, bounding along parallel with the road. A beauty—and he stopped not 50 yards from me. But his head and shoulders were behind a tree.

I decided to try to get a little closer by keeping that tree between us, but I broke a twig and he was gone as quickly as he had appeared. I ran farther out the trail, hoping to head him off and drive him out to Bill. I began pussyfooting along, hoping for a second chance but knowing full well that if I hadn't had my elbow in my ear, I wouldn't have needed it. I was almost at Bill's stand before I spotted him, for he was well hidden. He told me he hadn't seen anything.

A Dandy

"I saw a dandy," I told him. It was the biggest buck I'd seen for a while—not an exceptional rack, but a big deer.

We decided to return to the spot where I had sighted him and try to pinpoint any trails he might be using. Less than 100 yards from where I had seen him I found a small laurel bush that he had horned. Twenty yards away, a trail under some small oak trees looked like a superhighway. We found a place for another stand, then headed home.

After recounting our morning to our wives over lunch, we returned to the spot where the buck had worked over the laurel bush and fashioned a stand. Since Bill's hunting was limited to this one week, I told him to stay here. I elected to spend the afternoon near where I had spotted the buck that morning.

The vision of that buck spooking kept running through my mind like last summer's TV reruns. I still couldn't figure

out how I got so close without seeing him. I spent most of the afternoon shifting my weight from one foot to the other. At quitting time, Bill reported he had sighted three does, but the buck hadn't shown up.

On Tuesday, we got up without waking our wives and stopped at an all night restaurant for breakfast. I decided to try my luck on the ground; Bill headed for the stand in the oaks. At 7:45, I spotted a doe coming rapidly through the heavy timber about 60 yards above me. Soon a second smaller one joined it. In spite of my camouflage, one of them spotted me and stood eyeballing me for a solid minute. Although she couldn't make up her mind about what I was, she knew I didn't belong in her well memorized landscape and walked quickly out of sight. The other deer, sensing the first one's nervousness, followed her. They were to be the last deer I saw that morning.

An 8-Pointer

As we had previously agreed, I walked down to Bill's stand at 9:30. His smile told me he had seen something. A buck and three does had been feeding near his stand before he got into it. Bill figured he was about an 8-pointer. Probably the same one I saw, I thought. We decided to scout the area where I had seen the two does. Just a few yards beyond where they disappeared into brush, we found a well used trail. We followed it about 50 yards to a spot where it passed beneath a large wild cherry tree. A short distance from its base was a fresh rubbing. I climbed the wild cherry and found forks in two limbs that would easily support a plank.

En route home we stopped at my friend Pete's meat market. He asked us if we had scored yet, and then showed Bill that he had marked his calendar, as per my request, with a reminder to cut up a deer for me on Friday, October 9.

While our wives were getting lunch, I located a plank and cut it to fit the forks in the wild cherry. Somehow I had a feeling we were closing in on that old boy.

Since I teach a Bible class on Tuesday evening at a church sixteen miles

away, we elected to post Bill just a few miles from the church. While I hunted, I studied. He saw seven eight does and a nice 4-point, but the buck was just out of range. We agreed to return to try for that buck if one of them connected on the 8-point.

Dawn broke on a Wednesday morning that was perfect for bow hunting. Bill was in the big wild cherry, while I was in the small oak. The stillness was broken from time to time by gray squirrels running through the leaves. My mind knew the difference between the sound of squirrels rustling the leaves and deer walking, but my heart didn't, and each time one of those grays came bouncing along my heart started racing like an automobile engine with the gas feed stuck.

Suddenly I heard the unmistakable rhythm of deer coming up the trail. My heart took off like it had just gotten the green flag. A medium-size doe stepped into view, followed by a fawn. They passed within 10 feet of my tree and I never looked up, stopping less than 10 yards behind me to browse. Out of the corner of my eye I caught the movement of a third deer off to my right that would be the buck.

Slowly I turned my head, keeping close to the tree trunk. It was a fawn. They fed within bow range for about five minutes and then disappeared into the grapevines behind me. I glanced at my watch; it was 7:30.

My nerves were just getting back to normal when I heard the cadence of another deer coming up the same trail. I knew before he stepped into view that it would be the buck we'd been seeing. I nocked an arrow and was set to draw. He looked twice as big as the doe as he stopped about 35 yards away, but his rack looked odd. I pulled my head back behind a limb to wait for him to move into a more open spot. He stood motionless, examining the scene before him. I knew he had sensed something was wrong. If I could draw without spooking him, I felt sure I could connect, in spite of the fact I would have to shoot with him facing me. Carelessly I moved my wrist, allowing the camouflaged limb of my bow to move from behind the tree limbs. The buck threw

is flag and was gone. The woods were open in front of me, and I saw that he was still running when he was 100 yards away. When he wheeled to run I got a good look at his rack and it looked much better from the side than it did from the front. Maybe not an 8-point, but surely at least a 6. I made a mental note that he had come by at 7:45.

Although I knew he wouldn't come back, I stayed in my perch till Bill came by at 9 o'clock. I lowered my equipment to him with a rope and then got down to tell him about the buck. Bill had seen the same thing that the buck saw—the yellow end of the plank. Now that the buck had seen something amiss in the wild cherry, I was afraid he would look it over closely the next time. We found a maple tree that was in a perfect spot to intercept the buck, providing he came back on the same trail.

That evening I climbed the maple. Although it was ideally situated, I didn't see anything. When Bill came to my stand at quitting time, we heard a deer snort on the bank above us. Bill hadn't seen anything either.

Headed for the Mountain

When the alarm rang on Thursday morning, I shut it off in record time. After hot cakes and sausage, we headed for the mountain. Once again I took the maple; Bill set out for the stand in the oaks. At 8:15 I heard deer coming again, but instead of moving up the trail, they were traveling through the open woods about 20 yards behind me. I got turned around and into position for a shot. It was the doe and two fawns. Once again they fed around the base of the tree, oblivious of my presence. As the next 15 minutes ticked off, I got ready for the buck—but he never showed. When 9:30 rolled around, Bill came to me and we mapped our strategy for the evening. He had located a leaning tree in an area where he had seen a deer crossing earlier in the week, and wanted to get up in it.

We returned to the mountain early that afternoon. Bill had fashioned a nylon rope ladder with wooden rungs. I tied a stick to my rope and tossed it over the leaning tree, then pulled the



A MEDIUM-SIZE doe stepped into view, followed by a fawn. They passed near my stand and never looked up, stopping less than 15 yards behind me to browse.

rope ladder up. After snubbing the rope around my wrist, Bill began to climb the ladder. I doubled over laughing—Bill had gone up three rungs and was still standing on the ground. The nylon rope stretched. "At least you're holding your own," I told him. He decided to walk up the tree, using the ladder to give him hand holds; however, after getting into the desired position, he decided he couldn't safely draw his bow, so he used the ladder to descend.

My legs and back were aching from the hours I had spent standing in trees, so I suggested that Bill try out the maple while I found a more comfortable spot to spend the evening. He preferred to try his luck out of the wild cherry, so I helped him get situated in it.

There were some apple trees in the area. I saw that deer had been feeding on the fallen fruit. One tree had a large limb about four feet off the ground. I stood on it and found that another limb about two feet higher formed a perfect seat, with the main trunk serving as a back rest.

At 5:30 p.m., I saw another hunter walking toward me. When he got closer I recognized him as a friend. Although it was a nasty trick, I allowed him to get within six feet of me before I spoke. He jumped, then grinned sheepishly. Since he had planned to post in the

same apple trees, he left the way he had come after we had talked for a few minutes. Mentally, I was still chuckling about his surprise when I saw a big deer walking straight toward me. He stopped 30 yards away and looked directly at me through the forks of an apple tree. A nice set of spikes rose between his ears. If he would only look away long enough for me to draw, I believed I could drop him.

Suddenly a gust of wind hit me in the back. The spike snorted and took off in a series of high bounds.

Upon rejoining Bill at quitting time, he told me that the doe and two fawns had come by the wild cherry, but the buck hadn't. We discussed the spike I had seen and whether it was the same deer Bill and I had been calling an 8-point. Although we couldn't be sure, we hoped there were two—one for each of us.

Rustling Leaves

The breeze had died down by dawn on Friday when I climbed into the maple tree, but it was still rustling the leaves too much for me to hear deer at any distance. Eight o'clock came and went; even the three does didn't come by at their usual time. By 8:15 I felt sure I wouldn't be seeing anything, especially the buck. At 8:30, the buck appeared like a phantom on the upper side of the wild cherry. Once again my heart began thumping so loud it seemed as if the buck would be able to hear it. Standing broadside at 45 yards, he posed a target that was beyond the range where I would be confident of a hit. But . . . it was Friday. I drew my 46-pound Bear Kodiak to the full 30-inch draw. Bill had made the arrows I was using. Knowing I usually underestimate range, I made an effort to consciously shoot high. The release was smooth; the cast looked good, traveling toward a rib cage hit. Then the trajectory fell off the last few yards and the Black Diamond point passed beneath his chest, clattering on rocks on his opposite side. He made a quick jump behind a small tree and then froze. I nocked another arrow. Should I try to shoot through the limbs he was stand-

ing behind? The buck made up my mind for me. He wheeled and sprinted for the safety of the grapevine. My chance of connecting this week was gone; however, we would soon be reverting to Eastern Standard Time. I would be able to keep my appointment with the buck each morning and still be at work by 8 o'clock.

Fifteen minutes had passed when I saw him coming back. He was heading down the trail I was watching, undoubtedly looking for the doe and two fawns. He was finally making a mistake I thought, as I drew my bow. As I passed 25 yards away, I released. The arrow struck. The hind legs buckled. Wheeling around, he raced back toward the grapevines, then turned again and ran down the trail. My first thought after the arrow struck was that he was going to fall within sight of the tree.

Although we always try to remain on our feet a half-hour after hitting a deer, I couldn't force myself to stay up. I set out for the car where I had purposely left my knife. That was a sure way to avoid the temptation of taking up the track too soon.

Returning, I waited till a half-hour had passed before trying to track. I was still nervous and couldn't trail him ten yards from the spot where he was hit. Fortunately, Bill came along and helped straighten the trail out. For several hundred yards there was a good trail. Then it vanished. After circling the area awhile, I decided to travel in a straight line in the same direction the buck had been headed. A hundred yards farther, I found him.

He was a big deer, and his head was crowned by a pair of long curving spikes. But looking at a side view of his head, I realized happily that he was the 8-pointer we were after. Despite the fact that this buck wasn't of Pope and Young dimensions, I would always remember the hunt that produced my 8-point spike.

As I was dressing him out, I suddenly realized what day it was—Friday, October 9. I broke out laughing. I was sure going to enjoy the look on Pete's face when I took the buck to his butcher shop for processing.

Aunt Bev's First Season

By William Snyder, Jr.

OUR FAMILY hunts have always consisted of just brothers, uncles, aunts, grandfathers — in other words, all men. It wasn't that we didn't want women hunting with us; it was just that none of the women of our family had ever shown much interest in hunting. They were not against it—Heaven forbid!—it was merely that the women thought the men a little on the loose for liking to tramp around through thick, scratchy brush, freeze half to death get soaked, and suffer other adversities the outdoors has to offer. And for what? A few ringnecks, rabbits, woodcock, an occasional deer or other game. At least that was the situation until two years ago.

A favorite uncle who constantly plays on my weaknesses by expounding upon the virtues of hunting and fishing as compared to working, was approached by my aunt—his wife—with the suggestion that she accompany us on our excursions afield.

The idea met with mixed emotions—particularly from my uncle. It was his own fault. He had often taken her on hikes or to watch preseason deer trails. Through these experiences, she fell in love with the outdoors and wildlife—an addiction any hunter could understand.

None of us thought it a bad idea. Quite the contrary. We anticipated a great deal of fun in the days ahead. Uncle Bob informed my dear Aunt Bev that we were ruthless teasers in the field, much more than at home. Outdoors, it's everyone for himself (or herself, as the case may be). When a rabbit is missed while slowly hopping ahead of the persistent beagles, or a ringneck is just poked at with a load of shots when erupting into the hunters face and sarcastically cackles away, the hunter is not likely to be allowed to forget the miss until he has the chance to avenge himself with a better shot.

But Aunt Bev was not to be dis-



AUNT BEV displays her first ringneck and her smile tells how she feels about the whole thing. The little 20-gauge Savage proved it had everything required for a quick clean kill.

couraged. We were glad of that. It was a chance to gather another to our cause. And the thought of introducing someone else, particularly a woman, to a sport we appreciated so much was gratifying. My uncle was elated, too, although he tried not to show it. The announcement that Aunt Bev was going to join us this season brought both chuckles and encouragement at the same time.

Uncle Bob hunted alone with Aunt Bev for the first part of the early small game season. He had earlier worked with her on safety precautions, and many evenings were spent trying to get the novice hitting flying objects with a scattergun. Clay pigeons settled to the ground untouched quite often at first.

Auntie's spirits were not to falter, however. Opening day saw her attired in hunting garb and walking the fencerows and weed patches in search of game with the rest of our hunting party.

As with most beginning hunters, our female compatriot was batting zero. Not a piece of game had gone into her game bag by the end of the first week. Uncle Bob was anxious to observe my aunt's reactions to killing game, and

BILL SNYDER with a couple of rabbits that came out of the cornfield while he was heckling his Aunt Bev. Nevertheless, he didn't forget to shoot.



Aunt Bev field-dressing her game was something we were all anxious to observe. She was well aware that she would have to clean any game she harvested. If she managed to take some and then field-dress it, we knew our hunting group would have come of age.

Teasing was held to a minimum for awhile. But after a few sneaky bunnies had been missed while making tracks over Auntie's field boots, the gates were down. Advice came from everyone afield on that particular day. "You're not leading properly. Don't forget to keep swingin' that little 2 gauge. It's not a broom." Such were the words of wisdom offered this late beginner.

Were we cruel? No, Auntie could defend herself. And she did, too.

My uncle made a very astute decision. If he was to once again eat his meals at a regular time, he would have to work even harder at helping Aunt Bev achieve success. Finding game that is not always moving so fast can sometimes be a problem.

If Aunt Bev were to connect, fact could be saved by the fairer sex and Uncle Bob could get back to eating regularly—so he thought. He tried to instill the fact that the kill should not be the main concern. But she was tired of hearing how good the rabbit tasted that *he* shot and *she* cooked. Besides, Auntie felt some of the guffaws would subside after she had bagged some game. Uncle Bob was supposed to prepare it—which certainly would not help the cause of wild game cooking!

It was announced that my uncle and aunt would not join the rest of us on the second Saturday of the regular season. My aunt was going on her first squirrel hunt that morning. We were to meet at one of our favorite rabbit patches in Huntingdon County at noon.

So it was that Aunt Bev took her first game that morning. The big gray bushy tail was displayed with as much pride as if it were a record whitetail buck. And the field-dressing had gone off without a catch, we were told.

The afternoon went by rather uneventfully. Duke, my big male beagle, had brought around to the feet of my waiting aunt two bunnies that

thought they were racing Duke to an imaginary finish line. The one big trouble my aunt was having was waiting too long to shoot. She said it was not reluctance on her part, and she did occasionally shoot at the fleeing bunnies, but usually she was so far behind with her shot that it could almost have taken the rabbit on its second circle!

The second Monday of the season was set aside for ringneck hunting. Now, the ringneck is not as startling to most hunters as the unexpected flush of grouse, but this old Chinese bird is not to be taken lightly. When he blasts out of the tangles, violently flapping his wings and squawking his head off, he can be nerve shattering. He is particularly unnerving to one who has never before experienced his eruptions. Many experienced pursuers of the long-tailed bird cannot yet remain totally calm when a ringneck flushes wildly.

Cold and Overcast

Monday rolled around cold and overcast. The weatherman called for rain or snow flurries. We had high hopes of good scenting conditions for the dogs.

We arrived at our preselected cover in Huntingdon County about a half hour after legal starting time. Our hunting party included Uncle Bob, Aunt Bev, myself and my uncle's big German shorthair, Sans.

Sans began working the goldenrod patches and brushy fencerows that bordered freshly picked cornfields. He began finding birds almost immediately. Before he could establish a solid point, a big, squawking rooster went out between my aunt and me. I held back because the bird was heading in my aunt's direction. Although my 12-gauge Model 59 Winchester was on the big bird, I waited. I hoped that Auntie had a bead on him, too.

Nothing happened! The big bird was beginning to build up some distance between us. Just as I was about to send out a heavy load of 6s, I heard Aunt Bev's little 20 bark. Down he came!

Aunt Bev had not been doing too great in the quickness category, but her accuracy was fine. And although she



UNCLE BOB, who also took delight in needing Aunt Bev, gets ready to drop a low flying rooster, one of several taken on Aunt Bev's first hunt.

had made a good hit, she was leaving nothing to chance, for she gave the violently-flapping longtail the left barrel of the little Savage double as it dropped. Sans moved in for the retrieve.

I couldn't resist. "Were you gonna let him fly back to China?" I asked with a grin.

"Did you get him?" Yelled my uncle, who had watched the entire show.

She didn't respond to our snide questions. She didn't have to. Her smile told it all.

We added a few words of congratulations to instill confidence. After Aunt Bev field-dressed the bird, we moved on through the cover. The area produced nothing more, so we decided to drive to another top-notch pheasant spot we knew of in Huntingdon County. Rabbits also abounded there. So, in light of the fact that our beagles liked the scent of ringnecks as well as rabbits, Sans was kenneled in favor of our excited hounds. The thought of a mixed bag was invigorating.

Cornfields with borders of heavy-cover fencerows, old unfarmed grassy fields and mature brushpiles from clear-cuts gave us high hopes of success. We had hunted this area in other years and had an idea of what we might expect. Various species of game inhabited this extremely fertile farm.

It was nearly noon when we arrived at the farm. My brother Dave joined us for the afternoon, so we had four hunters and four hounds. This increased our chances of moving the pheasants we felt sure were hidden in the thick brush and cornfields. Our larger party could cover more ground, too, so the likelihood of a pushed bunny sneaking past us without being seen was not so great.

Aunt Bev's ringneck bulged the back of her coat as we tramped through the thick cover, kicking every brushpile. It was tough going, but she wasn't about to leave her first bird at the pickup.

We had gone only about 75 yards when Duke hit a hot track. I was not certain what he was chasing but suspected a ringneck because of the straight long run he was making. Not that a rabbit won't do this—we did think it was a rabbit at first—but rabbits will not normally go far after entering standing corn before they attempt to deceive the hounds. The game Duke was tonguing hotly entered the corn strip and immediately headed for the other end of the field—the trick of a ringneck.

We spread out along the edge of the standing corn in a field of cut alfalfa. If it was a ringneck ahead of the dog, it would take to the air when it came to the end of the corn.

Duke didn't make any turns. His tonguing was all straight ahead. But the unexpected happened. The startling cackle of a big cockbird came from the unpicked corn well before the end. I

couldn't see anything, but Uncle B let go with a load of 6s from his Itha pump. Apparently the bird was flying low over the corn and he could see though I couldn't.

"Did you get him?" I asked.

"He's down but I don't see him," my uncle answered. "Here, Dolly—her Dolly!"

Dolly soon came out of the corn half dragging and half carrying a bird by the ringneck. It had been a solid hit. "Does he ever miss?" asked my modest uncle.

"Well, now let me see. . ." answered Dave.

"Would someone lend me some extra fingers?" Bev slyly chimed in.

"Okay, okay. Sorry I asked," my uncle quickly shot back. "I didn't know you were counting."

"Somebody has to," Bev quickly remarked. She was rapidly learning about survival of the fittest, or the sharpes in our hunting gang.

The covert produced some great small game hunting that day. Bev still couldn't hit any rabbits. In fact, at the writing she has yet to take her first cottontail. But we're patiently waiting. She managed to connect on two bunnies before the day was out, and Dave got one. The uncle who never misses did manage to take one more bunny before we quit for the day, but it was lucky he wasn't buying that meat. He had already paid several times over in expended shot and powder.

It began to rain as we gathered together at the pickups.

"You don't have to take game for it to be a good day," Aunt Bev commented. "He's a beautiful bird, though," she added, smoothing the feathers of her big ringneck. "I certainly missed a lot over the years by staying home during hunting season."

We smiled. Our group had come off all right.

Pythons and Such

The ancient Greek city of Delphi was once known as Pytho. This was probably because a snake (which may or may not have been a python as we know it today) was kept at the shrine of the Temple of Delphi to represent the earth mother-goddess Gaea.



THE COVER IS PARTICULARLY SUITED for rabbits, so I was caught off guard when a cockbird thundered out of the weeds far up ahead.

Last-Minute Luck

By John P. Gross

AREN'T YOU going hunting this afternoon?" The words jarred me back from my world of dreams. After repeating hunting tales to my mother for years, I couldn't disillusion her now by not going out.

Actually I had already planned on giving it one last try this afternoon. I had come home to visit my parents and get in some hunting over the long Thanksgiving weekend. It was Saturday, the last day of the regular small game season. I had hunted all morning, with little success. With tired legs and an empty stomach, I'd headed home to refuel and regroup.

Whenever a son comes home to visit, his mother's main concern is getting him enough to eat. My mother is certainly no exception to this rule. I had no sooner pulled my boots off than the call to lunch was made. The table sagged

from the amount of food heaped on it, and I was sagging as I finally pushed myself away from it. Heading for the living room, I found the sun's rays pouring through the windows, flooding the room with warmth and serenity. The effects of bulling my way through briar patches all morning suddenly got to me, and I sprawled on the floor to let the sunlight recharge my batteries. Sleep soon overcame me, but I was eventually brought back to reality by my mother's question.

I got ready quickly. Grabbing my old double, I slipped out into the bright November afternoon. The crisp fall air cleared any remaining cobwebs from my head. The nap had refreshed me, and I felt optimistic as I chambered two low-base 6s. Such a load is adequate to about 35 yards, and I seldom shoot at longer range.

The area I was about to hunt lay on the side of a mildly sloping hill and previously had been used as a pasture. Long since abandoned, briars now engulfed the fencerows. Tall grasses nearby provided extra cover. The thick briars make walking difficult, but the cover is ideal.

The cover is particularly suited for rabbits, so I was caught off guard when a cockbird thundered out of the weeds far up ahead of me. Although the double instinctively came up, I realized that a shot at this range was useless. The bird was a true picture of nature's beauty, his bold cackling complementing his bright colors. His wings beat furiously for a few moments, then he started to glide, looking for a suitable place to land. No shot was fired, but the hunt was off to a rousing start.

Frustrated

I had not yet recovered from the unexpected pheasant flush when a form shot out of the weeds on my left and circled behind me. Swinging around, I desperately searched for an opening in the weeds, but none came. In all likelihood it was a rabbit, but only the movement of the tall grasses betrayed its presence and I wouldn't shoot at anything I could not see and identify. I began to feel frustrated. I had seen two pieces of game, yet had not fired a shot.

With the weedfield thinning out, I worked up to a fencerow. It stretched out ahead of me for about 200 yards, more weedfields on both sides. Full of briars and jumbled grasses, it looked like a hunter's paradise. My brush pants made the walking tolerable as I kicked through every likely bit of cover. Nature doesn't give up easily, however, and the briars grabbed hold and jabbed me every chance they got. Despite the beautiful cover, I couldn't chase anything out. Sometimes a patch of briars looked so inviting that I was sure a bunny was hiding in there, but if there was I never saw him.

At the end of the fencerow the ground flattened out, making the walking easier. Here large briar patches dotted an old pasture. The patches were so thick I couldn't make my way through, so I bombarded them with

rocks. Shotgun in one hand and goonie in the other, I must have looked a sight, but that was the only way cover the territory.

I was just approaching another patch both hands full, when a rabbit bounced out. There was barely time to drop the rock and get off a quick shot, as the bunny was really making tracks. Running around the other side of the briar patch to check the results, I was pleased to find my load had connected. The rabbit was quickly field-dressed and deposited in my game bag. It's amazing how the extra weight nestling against my lower back picked up my spirits.

Again, more briars and more rocks. Just when it looked bleakest, a rabbit took across a strip of barren ground as out of a slingshot, and neither barrier from the 12-gauge seemed to have any effect. I noted where it entered the heavy cover, however, and headed that way. The rabbit was stretched out in side the first bit of cover, stone dead. When I dressed him I found a single pellet had entered the lungs. If I had not deliberately looked, I never would have found him.

My wanderings had led me to the foot of a large basin-like hill, with likely looking cover rimming the base of it. I've found the only productive way to hunt such ground is to go slowly and try every inch of it. Rocks were thrown, logs kicked, and I just plain bulled my way through the lesser parts. Sometimes I wonder why I do it, because if something does run out, I'm usually in such a position that getting a shot off is unlikely. To hunters like me with no beagles, however, it's the only way to go. I find the thickest cover available and then really tromp it. Brush pants are a must. It's hard hunting, but I like it. I know that I earn every piece of game I bag.

In the midst of a sprawling thicket the next bunny was routed out. The only good thing about the briars is that they seem to slow the rabbits down a bit. I threw away my first shot, as I too often do, but thought the muzzleloader looked just right when I pulled the second trigger. The rabbit proved me wrong, however, as I watched the

sappearing bounces of that elusive powder tail. It wasn't a hard shot, and I cked myself for the miss. Hunting is ke a game, however, and you can't in every time.

The only way to go now was up, so I arted to climb. I was amazed at the ice I was setting, as the hill was quite eep. The many hours I'd spent in the eld earlier in the season not only reored my mental well-being but also d worlds of good for my lungs and gs.

Approaching Top

Just as I was approaching the top, I eard a rooster squawk. There weren't o many fields up there, so I had an ea where he was hiding. I wondered it was the same one I had chased out arlier, but I quickly dismissed the hole thing, for my chances of even eing him were remote.

Pausing for a few minutes at the top, e broke open my double and enjoyed e view. The newly fallen leaves lay risp underfoot, with only a few stragglers clinging stubbornly to the trees. ff toward the horizon, thin clouds ere pierced by the sun's rays, and the nell of pungent earth and dry grass ame to me. Nature was giving us one al allotment of warmth—and it was a lorious day to be a hunter.

But I still had places to go. An occa-onal grouse hid in a corner piece of oods where they dined on wild rapes. They often fed there in late fternoon, then flew to some nearby ines to roost for the night. Grouse are earce in this part of Northumberland ounty, but even a bunch of scraggly rapes like these will draw them in.

I kept up a steady pace through the angles of vines, my gun at the ready osition. The area is small, and I was al-most through it when the flush came. he grouse came out fast and low, with one of the thunder typical of many ushes. In the instant I had, before he odged his way around the tree trunks, fired. But not a single feather floated arthward, and I watched as he ickedered out of sight in the woods. I ulled the smoking hull from the hamber and caught the faint wisp of ount powder. I felt no regrets. I'd had

my chance, but just couldn't make the shot. At least I had the satisfaction of correctly guessing where the bird would be found, even if I couldn't hit him.

The November light was getting short as I stepped out into a field. It was 4 o'clock, and I decided to start working back toward the house. I would follow an old road through the woods down off the hill, then hunt the field that lay below me. From there it would be an easy walk home.

A squirrel scurried through the leaves to my left, chattering away at me. He was safe, for all my squirrel hunting is done with a 22 rifle. Heavy rains had washed deep ruts in the road, and I was careful to watch my step. The walk brought to mind other days in the field. Only last year I had come this same way, dragging my last-minute doe behind me.

Stepping out of the woods, an abandoned orchard greeted me. The soil must have been fertile, for a sea of thick, waist-high grass grew here. There wasn't time to hunt the area adequately, so one pass through would have to do. I zigzagged along, chuckling to myself at the thought of getting off a shot at a rabbit in cover like this.

Shining Eye

My gaze was on the ground, searching for that shining eye betraying a rabbit, when a rooster flushed from under my feet. His excited cackling did its job, for my first shot missed, but I settled down over the twin tubes and the other barrel brought him to earth. I scrambled my way to where he had fallen, worried he might get away in the heavy cover. There was no cause for alarm, however, as I found him exactly where he had fallen. Laying my gun down, I smoothed his feathers and admired the maze of colors that nature gives this bird. He was my first of the year, and would be my only one. What a great way to finish out the season!

A wave of satisfaction came over me as I extracted the empties from my gun. I didn't reload, for in a few minutes I would be home. It had been a great last day, and now I had some bragging to do.



Wintry Weather

By Eugene R. Slatick

HERE IT IS, winter. Once again our part of the earth has tilted away from the sun and turned cold. Masses of cold air flow over us, traveling as far as 700 miles a day and bringing us a variety of wintry weather. It is a yearly event lasting four to five months. Still, each winter is a new experience.

A few months ago we wondered what kind of weather this winter would bring. We might also have turned to weather folklore and looked for a hard winter if, for example, the skins of apples and onions were thick, the squirrels laid in an extra store of food, or if the woolly bear caterpillar wore a narrow brown band around its middle.

But no matter what the predictions said, during a typical winter we are likely to be tested by such weather as sleet, freezing rain, light and heavy snows, and bone-chilling cold.

Sleet is that noisy downpour of ice pellets, often mixed with rain, that we see bouncing off the ground and hear

rattling on roofs and windows. It forms when a warm, moist air mass rises over one with freezing temperatures. At the higher level, the moisture condenses into raindrops that freeze, completely or partially, into ice pellets as they fall through the colder air. Although sleet sometimes forms a thin layer on the ground and can occur on eight to 10 days each winter, it usually doesn't create many problems.

Freezing rain is quite another matter. It develops when a warm, rainy air mass arrives on a very cold day. The air mass doesn't become cold enough to change the rain into sleet or snow, even though all exposed objects on the ground have been chilled to below freezing temperatures. So, the rain turns into ice the moment it lands. Anything that gets wet—branches, wires, cars, roads—becomes glazed with solid ice. A long siege of an "ice storm" produces a fascinating but treacherous frozen scene. Travel

azardous, and the coating of ice adds extra weight to whatever it covers. Ice-coated wires and branches can snap. An evergreen tree 50 feet high and spreading out about 20 feet can be loaded with as much as five tons of ice. Weather records tell us that, on the average, we can expect periods of freezing rain on four to eight days in the southeast and southwest and up to twelve days elsewhere in the state. The ice storms that occurred in December, 1942, and January, 1951 and 1953, were three of the worst. Ice several inches thick formed on exposed objects and caused extensive damage. Fortunately, the ice created by freezing rain usually melts within a day.

The first snowfall of the season is something of a special event, for it reminds us that winter is coming even though "winter" doesn't begin officially until about December 22. Some parts of Pennsylvania may get light snow as early as September, but most areas have to wait until October or November. The first snow generally arrives in a squall that blows in with a cold front. It usually melts as soon as it falls because the ground is still relatively warm.

If we look to the weather records for a clue as to how much snow to expect during the winter, we find that the amount varies. For example, over the past forty years Philadelphia has received anywhere from a "trace" to about 49 inches, Allentown seven to 67 inches, Harrisburg nine to 81 inches, Scranton-Wilkes-Barre 14 to 77 inches, Pittsburgh and Williamsport 17 to 82 inches, and Erie 32 to 120 inches.

For an average we have the follow-

ing, in inches: Philadelphia 20, Allentown 32, Harrisburg 35, Williamsport 43, Pittsburgh 45, Scranton-Wilkes-Barre 50, and Erie 82. Northwestern Pennsylvania usually gets the most snow because of Lake Erie. Cold, dry air from Canada flows over the lake, absorbs a lot of moisture, and then deposits it as snow farther inland. Some of the heaviest snows are in places like Corry and Kane. During a winter, Corry has been buried under snowfalls totaling more than 200 inches—almost 17 feet.

Although a season's total snowfall allows us to make comparisons with other winters, the individual snowfalls are the ones we watch most closely. A light dusting or thin blanket of snow creates a pleasant winter mood and a picturesque landscape. We may even pause to examine some of the snowflakes on our jacket and marvel at the infinite variety of patterns.

Our mood can change quickly, however, when a snowfall accumulates too fast. This happens when a large mass of moist air is rapidly cooled into snow. A heavy snow can overwhelm us, disrupting our everyday routines, slowing or stopping traffic. The wind can pile the snow into high drifts, and the weight of thick layers can test the strength of branches, wires, and roofs. The Weather Bureau warns us of a "heavy" snowfall when it expects four inches or more within 12 hours or six inches or more within 24 hours. In some metropolitan areas a forecast of two or three inches of snow merits a heavy snow warning. Snowfalls of one to two feet have been known to overpower the larger cities during a

Wind-Chill Equivalent Temperatures

		Air Temperature (°F)											
		45	40	35	30	25	20	15	10	5	0	-5	-10
5		43	37	32	27	22	16	11	6	0	-5	-10	-15
10		34	26	22	16	10	3	-3	-9	-15	-22	-27	-34
15		29	23	16	9	2	-5	-11	-18	-25	-31	-38	-45
20		26	19	12	4	-3	-10	-17	-24	-31	-39	-46	-53
25		23	16	8	1	-7	-15	-22	-29	-36	-44	-51	-59
30		21	13	6	-2	-10	-18	-25	-33	-41	-49	-56	-64

(Source: National Oceanic and Atmospheric Administration)

single day. Sometimes two heavy snowstorms can sweep across the state within a week or so of each other.

The most powerful snowstorm is the blizzard, the "great white hurricane." It is dramatic and dangerous. Temperatures drop to 20° or lower, and the winds howl at speeds of 35 miles per hour or more. Snow is whipped into sheets, so you can't see more than a few yards. Snowdrifts are shaped and reshaped. Fortunately, blizzards do not arrive each winter. But when they do, they are remembered. The blizzard of late January, 1966, marooned thousands. The snowfall ranged from one to three feet, but winds of more than 60 miles per hour piled it into drifts over 20 feet deep.

How much water is in snow? A one-inch snowfall is equivalent to about 1/10 inch of rain, so it covers an acre with about 2,700 gallons of water and weighs about 11 tons. How much of that eventually soaks into the ground? Less than half; some evaporates back into the air and the rest drains off. The precipitation that would give us an inch of rain during warmer weather amounts to about 10 inches of "average" snow, four to five inches of wet snow, or 15 inches of dry snow.

The cold air masses of winter also bring us spells of frigid weather, especially in January and February. January, 1977, was a record-breaker. The bitterly cold air that settled in made us feel as if the state had shifted several hundred miles northward. Temperatures sank 9° to 17° below normal, and thick ice sealed in even the largest rivers. During the coldest times the thermometer plummeted to -17° in Pittsburgh and Williamsport, -10° in Erie and Scranton-Wilkes-Barre, and about -4° in Allentown, Harrisburg, and Philadelphia. Even colder readings were reported in some outlying areas. In Philadelphia, where continuous weather records go back to 1790, the 1976-77 winter ranked as the second coldest since 1836-37. Weathermen say that the unusually cold temperatures probably resulted because the jet stream, the high-altitude wind that moves west to east and influences the weather, shifted too far

south. But why it shifted is still unknown.

During cold weather the term "wind chill" appears often in weather reports, and it is a reminder that cold air seems even colder when the wind is up. The wind blows heat away from the exposed parts of your body and forces cold through your clothing, and so you feel colder. Just how much colder depends on what you are wearing, whether you are active or standing still, your health, the amount of sunshine, the relative humidity, and the wind speed. But by taking only the air temperature and the wind speed you can get an idea of the chilling effect of the wind. As shown in the wind-chill table, a temperature of 40° and a wind speed of 10 miles per hour makes you feel as cold as if the temperature was 26° with no wind. If the air temperature drops to 30° that same wind has the effect of lowering the temperature to 16°.

Are the winters getting better or worse? According to the records, we have had broad cycles during which mild winters were mixed in among the hard winters. Most of us, however, tend to remember the hard winters because they are more dramatic. Many of them have been given a place in history. For example, S. W. Fletcher's *Pennsylvania Agriculture and Country Life, 1640-1840* reports that the Philadelphia area in 1704-05 was subjected to a severe winter with the "deepest snow," and that 1740-41 was "the winter of the great snow," when snow reportedly lay on the ground four to five feet deep from December into March. The year 1816 is legendary in the Northeast as "the year without a summer"—ice was reported near Philadelphia in June. The "blizzard of '88" immobilized the Northeast for two days in March, and in 1924 the "April Fools' Day snowstorm" dumped 15 inches in parts of Pennsylvania.

So, wintry weather is here again. It can be a cold and blustery visitor who sprinkles snow and ice across our path. Its ways are unchangeable and sometimes unmanageable, and we have to accept them. But yet that same wintry weather can create scenes that make us glad it passed through.



P.G.C. Annual Report

July 1, 1976—June 30, 1977

EXECUTIVE

If the management of Pennsylvania's wildlife resources were ever simple, recent years have changed that. Environmental implications, reflected in highly emotional impacts of the anti-hunter, the gun control advocate and the protectionist, along with the steady insidious loss of wildlife habitat to competitive land uses, pose very serious challenges. In essence, the increase in the human population and a growing interest in the out-of-doors has accelerated public use of an already diminishing resource—space.

At the direction of the eight-member Game Commission, the Executive Office oversees and coordinates a wide range of programs designed to maintain open space and provide both the hunter and non-hunter with meaningful outdoor recreational opportunities.

COMPTROLLER'S OFFICE

During the past fiscal year, a study was made by the Comptroller's Office to determine the feasibility of updating the Game Commission's Data Processing unit through the utilization of an in-house computer system. The Game Com-

mission has accepted the suggestions of the study and is presently obtaining approval for the possible acquisition of this computer system. This improvement in the automation of the Data Processing unit will mean more meaningful and timely accounting of cost and statistical information for present Game Commission operations and future planning.

Field audits of all Game Commission field locations have been conducted to insure proper usage of advancement accounts for miscellaneous purchases of items under \$50, when not available from a State contract or from a State warehouse. Verification of inventory control procedures also was included in these audits.

Environmental disasters from flood damages and oil spills is a frequent occurrence affecting Game Commission properties. Continuing involvement with Federal agencies to obtain reimbursements for damages caused by these disasters has been stressed. A letter-of-credit system was coordinated with the U.S. Fish and Wildlife Service. This procedure enables the Game Fund to receive reimbursement monies under the Pittman-Robertson Act in a matter of days, rather than weeks, and was implemented this year.

This Division continues to maintain through its



COMPTROLLER ED DURKIN discusses budget calculations with **Emma Jane Morrison** and **Kathryn James**. Among other activities, this busy section last year studied an in-house computer system, recommending its acquisition.

normal operations the overall responsibilities and functions of receipt and disbursement of funds, and offers financial guidance to the Commission for management, informational and budgetary purposes.

DIVISION OF ADMINISTRATION

This Division is composed of the following units: Personnel and Training, Procurement, Hunting Licenses, Data Processing, Internal Stores. Although the Game Commission Training School is located near Brockway in Jefferson County, it is part of the Division of Administration.

Personnel and Training Section

The Personnel Office centrally develops and coordinates responsibilities in personnel management for statewide operations in the following areas: Classification and Pay; Employee Benefits and Services; Labor Relations; Recruitment and Placement; Manpower Planning; Personnel Transactions; Career Development; Affirmative Action; Leave Administration and Records; and appropriate training in the aforementioned areas for all work units located centrally and throughout our field operations. All of these responsibilities must be coordinated and developed in conformity with Agency Policy, Civil Service Law, Personnel Rules of the Commonwealth and several Collective Bargaining Agreements. Our current operations involve approximately 330 Civil Service employees and 270 non-Civil Service permanent employees, plus approximately 150 seasonal employees of a temporary nature.

Our Employee Benefits Section is quite comprehensive and includes such areas as the State Employees' Retirement Program; Hospitalization Insurance; Dental Insurance; Life Insurance; Annual, Sick and Personal Leave; Holidays; Blood Bank; Immediate Relief Association; Disability Leave with Pay; Paid Prescription and Vision Care; 25-Year Club, and

several voluntary payroll deduction programs such as Savings Bonds, Credit Union and United Fund.

Personnel transactions involving appointments, promotions, separations and all other matters involving employee changes are in a total computerization program. All personnel transactions/changes to the Central Management Information System's computer are made via a Uniscope terminal located in our Personnel Office.

Labor Relations responsibilities are very comprehensive, involving a Master Contract, a Master Memorandum, and approximately 11 different employee unit agreements, with the resulting contract applications and interpretations emanating per unit from this office. Our Labor Relations responsibilities also include negotiations, labor/management meetings, management training, handling of grievances and arbitration.

A formal comprehensive Affirmative Action Program exists to insure equal opportunity for all employees and applicants by developing, implementing, reviewing and coordinating equal employment opportunity, rules, regulations and Executive Board Orders.

The 17th Class of Game Conservation Officer Trainees was enrolled at our Training School located near Brockway, Jefferson County. Twenty-four future Game Protectors/Land Managers started their formal training on July 9, 1977, with graduation scheduled for June, 1978.

Comprehensive in-service and out-service training is provided for all permanent employees through college and university courses related to job responsibilities, along with meaningful internal workshops and seminars. In the past year approximately 140 employees participated in out-service training courses and 60 employees participated in in-service programs. Additionally, training was conducted for members of all our deputy force, which included firearms, game law and legal procedure.

The Personnel Office also develops and provides training for Division Chiefs, Division Supervisors, Game Farm Superintendents and other management staff in all of the aforementioned

ARRIVAL AT Ross Leffler School of Conservation crowns months of testing, interviews and waiting. Only 24 trainees were selected from 1,650 applicants. **Steve Kleiner of Altoona** says hello to **Assistant Superintendent Dick Furry**, and goodbye to wife **Bessie** and one of their youngsters.



ned areas so as to develop a uniform and understandable total Personnel Program.

Hunting License Section

This unit appoints and supervises approximately 1500 issuing agents. The unit also supervises the issuance of various types of hunting licenses by county treasurers. Monthly reports are received and audited, and revenue deposited in the Game Fund by way of the State Treasurer. The Hunting License Section makes sure agents remit funds due on a monthly basis and that licenses allotted do not exceed the amount of a bond security.

This unit is responsible for the appointment and supervision of approximately 1500 issuing agents and the county treasurers in issuing the various type of hunting licenses—adult (\$8.25), junior (\$5.25), senior (\$5.25), nonresident (\$40.35), archery (\$2.20), antlerless Deer (\$3.35), muzzleloader deer (\$3.25). Antlerless deer licenses are issued only by county treasurers. The muzzleloader deer licenses are issued only by the county treasurer and the Game Commission offices. Nonresident special three-day regulated shooting grounds licenses (\$3.15) are issued by licensed operators of these shooting grounds and the Hunting License Section, Harrisburg.

Our Harrisburg License Unit issues licenses by mail only. Many nonresidents take advantage of this service, as do an increasing number of residents. Selected agencies at key locations in Ohio, New Jersey and Maryland have been appointed and continued as a service and convenience to out-of-state hunters.

The non-resident trapping license (\$40) is issued only by our Division of Law Enforcement in Harrisburg.

Most categories of licenses sold for the 1976-77 hunting license year indicate an increase in sales over the previous year. Approximately 514,402 licenses of all types (excluding antlerless deer) were sold during this license year.

Data Processing

Practically every segment of Game Commission work is processed through data computerization. The Data Processing Section works with the budget, payrolls, state and federal accounting requirements, land records, and game management. Big game harvest report cards are now sorted by computer, eliminating the need for temporary employees to do this work. Data from the harvest report cards are vital to the future deer management recommendations.

Plans are now being made to upgrade our Data Processing equipment with a mini-computer for faster processing, and with more capacity to assume increased workloads of many present manual systems.

Procurement Section

The Procurement Section purchases materials, supplies, equipment and printing for district offices, game farms and other installations,



PURCHASING AGENT Millie Overmiller discusses an order with Kristy Deardorff; Donna Snyder types requisitions in the background.

as well as for the Harrisburg Office. The rising cost and scarcity of many commodities and services represent some of the Commission's gravest concerns. For example, Commonwealth gasoline prices rose from 12 cents per gallon in 1972 to 44 cents per gallon in 1977. All purchases must be in accord with Commonwealth procedures as developed and regulated by the Department of General Services.

Internal Stores

This unit is responsible for maintaining a ready supply of clerical supplies, paper materials, and Commonwealth forms used throughout the agency, plus duplicating and mailing services within the agency. Messenger and warehouse responsibilities also fall within this unit.

Field Administration

Some administrative tasks are delegated to the six field division offices; however, primary administrative policy lies with Harrisburg. This insures uniform implementation of all Game Commission and Commonwealth directives and policies.

DIVISION OF GAME MANAGEMENT

The propagation of game birds and wildlife field research are the two major functions of the Division of Game Management.

Wild turkeys, mallard ducks and ring-necked pheasants are the game birds propagated on six game farms. Coordination of the trapping and transfer of wild game plus the purchase of game are also annual programs.

Twelve game biologists are assigned to wildlife research studies which require annual reports and recommendations.

More than 1200 pieces of external and internal correspondence, in addition to several thousand forms for game distribution and purchases, are handled annually in the headquarters office.



DEER CHECK STATIONS are operated every year for information on age structure, sex ratio, general condition of the herd. Game Commission foresters, secretaries, and others pitch in to help biologists and game protectors run the stations.

Propagation Section

The following game birds were raised for release as follows:

Fall 1976

Pheasants	
Farm	204,309
Chick Program	35,790
Total	240,099
Turkeys	6,069
Mallards	0

Spring 1977

Pheasants	27,694
Turkeys	341
Mallards	16,086

Totals

Pheasants	267,793
Turkeys	6,410
Mallards	16,086
Rabbits	3,930

The chick program involves providing day-old pheasant chicks to sportsmen and farmers with proper rearing facilities. These are raised to 12 weeks of age and then released in the wild. In 1977, 40,380 chicks were distributed.

Research Section

Bear Study—Although there will not be a bear hunting season in 1977, the effort to gather data on this wildlife resource has been intensified. Well over 100 animals were trapped, examined and marked. Twenty-six were instrumented with radio equipment.

Turkey Study—Spring seep management, forest opening benefits, and food preference studies received major emphasis during the past year.

Rabbit Study—A study to determine the size of population fluctuations and their effect on hunter harvest is continuing.

Deer Study—Data on the deer herd was gathered monthly from each county so that the proper harvest management could be enacted.

The study of insect-caused forest defoliation and attendant effect on wildlife has thus far revealed insignificant damage to any wildlife inhabitants.

There are three deer enclosures in Pennsylvania to study the long-term effects of deer or forest range.

Seven deer check stations were operated during the antlered deer season. Antlerless deer were examined via processing establishments.

Small Game Harvest Survey—Annually, small game hunters are surveyed to determine the size of the harvest of small game animals. In doing this, population trends can be monitored thus assuring species perpetuation.

Ruffed Grouse—Experimental intensive habitat management for ruffed grouse is underway on 15 State Game Lands. Population response to this management will be evaluated in several years.

Waterfowl—All game farm-produced mallard ducks are being banded. This is done to ascertain the most efficient use of these birds.

Pre- and post-hunting season banding of all waterfowl is progressing statewide at the request of the Federal Fish and Wildlife Service.

DIVISION OF LAND MANAGEMENT

Section 901 of the Game Law authorizes the Game Commission to purchase land for the protection, propagation and management of wildlife and for public hunting and trapping.

The Division of Land Management is responsible for the purchase, development and management for wildlife on 263 separate tracts of State Game Lands totaling 1,184,768 acres. While used primarily for public hunting, compatible recreational activities such as hiking, photography and bird-watching are additional benefits to the citizens of the Commonwealth.

Besides managing the State Game Lands, this Division is also responsible for the leasing of private and public lands for the same purposes. Including these leased lands and other public lands, a total of approximately 6,500,000 acres were made available for public hunting.

Management of these lands is carried out by Land Managers and Foresters at the field level and, most important, the Food and Cover crews in each local land management group.

Following is an accounting of the major endeavors of the Land Management Division for the past fiscal year.

Federal Aid

The Pennsylvania Game Commission, in its continuing effort to provide an aggressive and imaginative wildlife management program, was again an active participant in Federal assistance programs. These programs concerned planning, acquisition of additional State Game Land acreage, wildlife habitat improvement on both public and leased private land, and the restoration of flood-damaged facilities.

During the fiscal year, the Pennsylvania Game Commission received \$2,532,099 in Pittman-Robertson funds for use in wildlife restoration. This is a fund from which we may be reimbursed for up to 75 percent of the cost for certain approved projects. Most of this money was used by the Division of Land Management for habitat improvement and public access or

late Game Lands, Cooperative Farm-Game projects, leased private lands and other publicly owned areas. Program income, money received from the sale of wood products, surplus grain and the sale of minerals from Pittman-Robertson funded projects must be added to the funds received from the U.S. Fish and Wildlife Service to enhance the federally assisted programs. During the past fiscal year, \$1,232,320 program income was added to the restoration and development project, once again making this effort by the Game Commission the largest Pittman-Robertson funded project in the nation.

The Federal Land and Water Conservation Fund provides funds for acquisition, development and planning of outdoor recreation projects. The fund, administered by the Bureau of Outdoor Recreation, Department of Interior, provided \$106,910 on a 50-50 cost share basis for the purchase of 1246 acres in Bedford, Luzerne, Perry and Sullivan Counties. It also contributed \$80,509 as the payment for the final phase of the development of the Middle Creek Wildlife Management Area. Funds received from the Bureau of Outdoor Recreation during the past fiscal year totaled \$187,419.

Highway Impact Review

The 1969 National Environmental Policy Act provided, among other things, that all federally funded highway construction projects be reviewed by the conservation and environmental protection agencies in each state. Review efforts are aimed at identifying and reducing as far as possible any adverse construction impacts on the natural environment. Since each mile of new highway construction can require up to 50 acres or more of right-of-way, highway construction projects represent a potential major impact on the Commonwealth's remaining open lands and wildlife habitat.

The proper location of highway routes, to minimize loss of existing wildlife habitat and reduce roadkills, remains one of the primary goals of the Commission's review program. Under present federal guidelines, each state's transportation department must submit a construction proposal consisting of several alternate routes for all new highways to be constructed. The Commission's Research and Land Management staffs make field evaluations of each route and recommendations based on their findings.

A correlative activity includes the Game Commission's evaluation of projects involving the dredging and/or filling of the Commonwealth's streams, waterways and adjacent wetlands. The Federal Water Pollution Control Act of 1972 requires that the U.S. Army Corps of Engineers review all activities involving the dredging or filling of the "navigable waters" of the United States. Under Section 404 of this Act, the last phase of which went into effect on July 1, 1977, the term "navigable waters" was interpreted to include most of Pennsylvania's rivers and major streams, including their headwater tributaries.

The Corps of Engineers must evaluate all applications for dredging or filling permits and, based on the field review of the described proposals, make a decision as to whether or not a

permit will be issued. The criteria for issuing a permit is based on the deleterious effects which the activities might have on the natural environment. Before the Corps can issue a permit of this type, it must contact related conservation agencies for their views on the activities described in each application. The Game Commission, where applicable, conducts a field review of its own and makes recommendations to the Corps based on the effects of the project on wildlife habitat values. The Commission's recommendations are aimed at slowing or reducing the loss of valuable streamside and wetland habitat.

These efforts have resulted in the preservation of many unique habitat areas, including bear denning sites, wintering and nesting grounds for both game and non-game species, and valuable streamside habitat for furbearers. In addition, Pennsylvania Game Lands have been preserved from unnecessary encroachments.

Forestry Section

During the past fiscal year our foresters and technicians made very good progress toward our goal of detailed, long-range management plans for each forested tract.

Field data was collected and plans developed for 24 Game Land tracts involving 100,278 acres. This brings our management plan development to 901,700 acres or 76 percent of the total Game Land acreage.

Foresters also planned and administered commercial timber sales on 6,739 acres. This management endeavor involved the sale of 13,602,100 board feet of sawlogs, 64,500 tons of pulpwood, 13,800 cords of pulpwood and 15,600 posts and props. These sales returned to the Game Commission \$1,117,199, an increase of \$253,000 over last year. This represents an average income of \$165 per treated acre.

In addition, 570 acres of timberland were selectively marked on six Game Lands for improvement cutting under Project 500. Five hundred acres were also marked on various

FORESTER BOB BAUER, Forest Technician Les Sanford mark trees for a timber sale on State Game Lands. Such sales—with wildlife benefits as prime consideration—returned over \$1 million for Game Commission activities.



Game Lands for improvement cutting by Food and Cover employees.

All of the above cutting operations, both commercial and noncommercial, may be considered an improvement in wildlife habitat, since opening the forest canopy encourages sprout and seedling regeneration.

Minerals Section

Revenue derived from the lease and sale of minerals, oil and gas amounted to \$102,853 for fiscal year 1976-77. Nominations for the leasing of Game Lands for purposes of oil and gas development continued at a low rate for the second straight year. Exploration activities have shown a recent decline throughout the Commonwealth, apparently as a result of the industry's uncertainty over a federal attitude toward deregulation of the price of interstate sales of oil and natural gas.

Recovery of minerals from Game Lands is a legitimate secondary use as provided for in the Game Law. Projects are carefully reviewed to select only those which fit a minimum-disturbance maximum-recovery formula. The bulk of the lands leased are for recovery of oil and natural gas. This leased acreage remains open to public use and the operating companies are under strict contractual agreement to maintain all well sites, pipelines, etc., in an approved food and cover condition.

With the increasing emphasis on coal recovery, the Commission has begun reviewing the possibility of exchanging deep mine coal reserves for useful and desirable surface lands which can be added directly to the Game Lands

OIL AND GAS recovery are allowed on State Game Lands only if they don't conflict with wildlife management plans. Rights-of-way are maintained as food and cover. Mineral, oil and gas lease and sale income last year was \$102,853.

system. This new approach may be valuable in acquiring lands otherwise out of reach of the Commission's acquisition program. In a case where a surface mining project is proposed serious consideration is given to the project primarily where previously mined and orphaned areas will be reclaimed as a result of the search for new coal or where very desirable and valuable surface lands can be acquired by way of an exchange for the right to mine coals lying under the Game Lands.

As in oil and gas leasing, each project is carried out under a strict contractual agreement requiring reclamation to Game Commission Standards.

Right-of-Way Administration and Licensing

Section 906 of the Pennsylvania Game Law authorizes the Commission to grant rights-of-way to private business, industry and municipal and other governmental agencies in recognition of public needs for power and pipeline facilities communication towers, etc. Each right-of-way application is evaluated to identify any adverse impacts on wildlife habitat or ongoing land management programs before it is approved. Electric transmission and gas and oil pipelines represent the majority of present right-of-way licenses affecting Game Lands. Licensed companies must maintain their rights-of-way in an approved food and cover condition, and many are reseeded on a regular basis. Revenues from right-of-way fees totaled \$157,327 last year.

Recent innovations in right-of-way maintenance, developed with the cooperation of electric utilities, have resulted in improved wildlife cover. Desirable shrub species and herbaceous cover is maintained through selective closely supervised basal spraying.

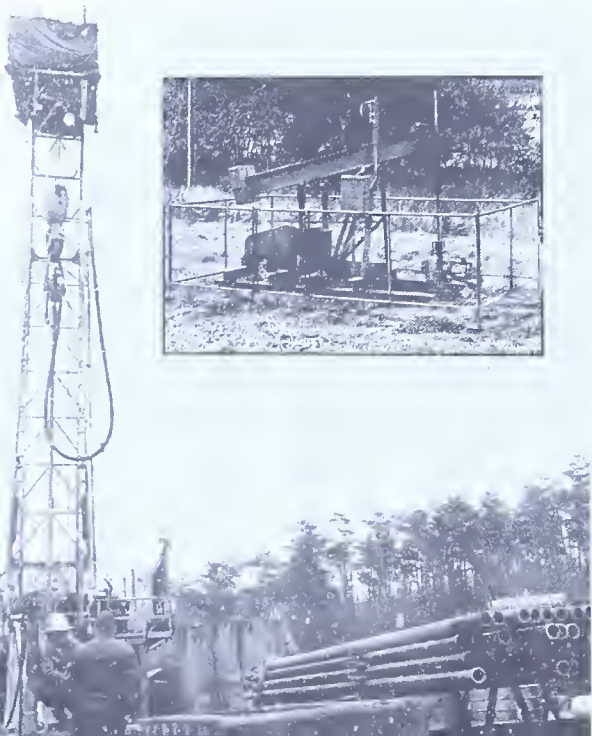
Land Acquisition

During the fiscal year 1976-77, an additional 10,249 acres of State Game Lands were purchased and ownership conveyed to the Game Commission in nineteen counties with Game Fund monies, for a total cost of \$2,267,743. Lands purchased with Game Fund monies since the inception of the acquisition program in 1920 now stands at 1,166,159 acres, with a total cost of \$17,174,770. In addition, 18,609 acres were purchased with Project 70 funds during the years 1965 to 1977, for a total of 1,184,768 acres of State Game Lands. Also during the fiscal year 1976-77, \$969,330 was encumbered for contracts that have been accepted but not consummated during this period.

At present, indentures, interior holdings and public accesses are being purchased wherever possible to create more desirable and efficient management units.

Survey and Drafting Section

The Commission employs four full-time survey crews. Each crew is made up of one party chief, one instrument operator, and two brush cutters. The crews perform boundary line



surveys for all land acquired by the Commission. In addition, they survey lost and disputed boundary lines, resurvey existing Game Lands and make topographic surveys. Five draftsmen are also employed to provide the mapping work and produce the various maps needed in the acquisition and land management programs.

Payments in Lieu-of-Taxes

Payments are made to local government bodies in lieu-of-taxes, at the rate of twenty cents per acre. Contrary to often expressed public opinion, land owned by the Commission is not free from all obligations.

During the past fiscal year, \$95,008 was paid to the various counties, \$95,008 to school districts and \$47,504 to township road supervisors for a total of \$237,520.

Management and Development

Management of the Game Lands and other licensed or leased areas to improve wildlife habitat is accomplished by the 27 land managers with the aid of 220 permanent food and cover employees.

Management practices on the 263 tracts vary from Game Land to Game Land dependent upon the soils, moisture, topography, climate, type of wildlife present, etc.

Some of the accomplishments this past fiscal year include 789 acres cleared, 2,134 acres planted to grain, which was left standing, 1,505 acres seeded to grasses and legumes, 22,187 acres maintained by mowing, liming or fertilizing.

Utilizing local farmers to sharecrop the land, 5,783 acres of corn and 3,441 acres of small grain were planted. While leaving sufficient grain to provide for wildlife, 32,139 bushels of corn and 21,329 bushels of small grain were harvested, which was used on the Game Farms, fed to wildlife or sold through competitive bids.

To provide improved food and cover, 228,214 evergreens and 354,277 food producing trees and shrubs were planted, and, despite unfavorable working conditions last winter due to continued snow cover and extremely cold temperatures, 2,953 acres of forest improvements such as border cuts, browse cuts and timber stand improvements were made. An additional 7,393 apple trees were pruned and released to promote better fruit production.

Howard Nursery

Three and a half million seedlings were produced at the Howard Nursery this past year and distributed for planting on State Game Lands and other lands open to public hunting.

Due to operational changes made in the last two years, there has been a savings of \$25,000 in wages. Most of the cost reduction was realized through the elimination of hand weeding of conifer seedlings.

The decrease in total production at the nursery reflects the planned reduction of multiflora rose. We are looking at several native plants and horticultural varieties now started at



SEASONAL EMPLOYEES work on a few of the 3½ million seedlings grown at Howard Nursery in Centre County last year for planting as wildlife food and cover on lands open to public hunting throughout the state.

the nursery in an attempt to find a good wildlife shrub with characteristics acceptable to landowners to replace the multiflora rose.

Project 500

Project 500 funds, in the amount of \$1,664,744, were expended or committed for development projects on Commission-owned lands during this past fiscal year. Construction contracts were awarded during the year for the construction of three storage and headquarters buildings and five stream crossings on State Game Lands.

Special Projects

In order to promote better habitat for ruffed grouse, during this period a project was initiated to determine the best method for regenerating aspen and to a lesser degree scrub oak, both highly desirable as major components of good grouse habitat.

Several Game Lands were selected for prescribed burning under carefully monitored conditions. On a tract in Centre County, commercial cutting, mechanical tree mowing, clear cutting and prescribed burning were accomplished on nearly contiguous small tracts as part of a long-term study. Several years' observation will be required to determine which method or combination of methods will produce the most desirable results.

During this period also, a user survey, cost shared with the Federal Bureau of Outdoor Recreation, was conducted on two State Game Lands. The field work and tabulation of findings was handled through a contract with Shippensburg State College. Game Lands 169, Cumberland County, and 235, Franklin County, were selected as representatives of open farmland and wooded mountain land types. Students conducted daily interviews and collected questionnaires throughout this period.

Preliminary information indicates a variety of recreation uses other than hunting and fishing, but not to the degree anticipated. Highlights of the survey will be made known in a GAME NEWS article.

Cooperative Farm-Game Projects

The Cooperative Farm-Game Program, which was initiated in 1936, continues to be our most successful public access program, and along with our other access programs, may be strengthened by improved landowner-sportsmen relationships brought about by outdoorsmen actively involved in the Game Commission's SPORT program.

A Farm-Game Project consists of contiguous areas of land open to public hunting and totaling at least 1,000 acres. Currently, through the generous cooperation of private landowners, there are 177 projects in 57 counties. A total of 16,714 cooperators offer the hunting public 2,022,350 acres on which to enjoy sport hunting in the agricultural regions of the Commonwealth where publicly owned lands are limited.

The Game Commission offers protection to cooperators through the erection and maintenance of Safety Zones around buildings and additional law enforcement patrols during the hunting seasons. During the last fiscal year, Land Management personnel made over 34,000 landowner contacts, distributed over 1,300,000 tree and shrub seedlings and implemented 457 acres of woodland border cuttings on Farm Game Projects.

Safety Zone Program

This program, initiated in 1958 and administered at the local level by district game protectors with help from deputies and sportsmen, again showed an increase in both acreage and cooperators last year. There are now 11,315 cooperators with 2,026,293 acres open to public hunting enrolled in the Safety Zone Program.

Forest-Game Cooperative Program

This program, since its inception in 1971, has continued to expand and now consists of 22 large landowner cooperators, some in forest industries, others with private holdings and some local governmental bodies. Collectively, they have over 530,000 acres of mostly forested land enrolled and open to public hunting.

DIVISION OF LAW ENFORCEMENT

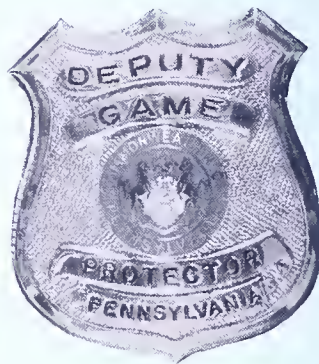
This Division is administratively responsible for safeguarding the rights of all individuals through fair and impartial enforcement of the Game Law. Deliberate violators are vigorously pursued, apprehended and prosecuted. During the fiscal year 1976-1977, officers prosecuted 10,092 cases and collected \$448,539 in penalties which were returned to the Game Fund. Convictions were obtained on 97.4 percent of all cases. Revocation of hunting license privileges were imposed on 1,196 defendants. There are 135 Districts, each servicing an area of approximately 400 square miles. In addition to law enforcement, officers devote many hours to attending meetings, teaching wildlife conservation, conducting hunter education classes for first-time hunters, control of wildlife, and other related activities. Expenditures to conduct

all law enforcement activities totaled \$4,361,481 for the fiscal year.

The Game Commission goal regarding law enforcement is to achieve and maintain an acceptable degree of compliance with all game laws and regulations pertaining to wildlife, safety, protection of people and property and the hunting license. Our goal is to accomplish this with a fair, impartial application of the law to all people.

Thirty-four salaried officers received one week of training provided by the NRA which qualifies them to be Police Firearms Instructors. They now can furnish the training deputies need to be permitted to carry a handgun. This training consists of shooting under different conditions, but the emphasis is put on handling emergency situations and when shooting might be justified as a last resort.

The Harrisburg Law Enforcement Staff assisted in the training of 175 deputies at the Ross Leffler School of Conservation. Subjects covered were law enforcement procedures and policies, legal procedures, Game Law, firearms training, special permits, hunting accidents, deer disposal, uniform regulations, game damage and others. Field and Division Office personnel assisted with much of the training related to law enforcement and related subjects.



NEW DEPUTY game protector badge.

Deputy Game Protectors

A force of 1,600 deputy game protectors was maintained at a cost of \$466,640 for the fiscal year. Deputies are paid \$25 a day, which includes expenses, when their employment is assigned in writing. On an average, deputy game protectors are paid for only 10 days' work each year during the general hunting season, even though most of their spare time during the season is spent assisting the game protector.

Deputy game protectors contribute generously of their time and personal funds to safeguard our wildlife, promote hunter safety, service wildlife damage complaints and the many other activities related to wildlife management. Deputies purchase uniform equipment and mobile radios at their own expense to improve their service to sportsmen and the general public. The Commission requires district game protectors to conduct training programs for deputies under their supervision. A total of \$47,198 was used from the Game Fund

for these training programs.

Six one-week classes of deputy game protectors were held at our training school in April and May. Each class scheduled 30 deputies, and 175 appeared and completed the course. Three female deputies attended one class. The instructors were impressed by the interest of the deputies in all subject matters. The deputies in turn expressed their appreciation at being offered this training and the quality of the instructions received. All deputies attending received the Game Commission firearms training course. Commission policy, effective September 1, 1977, requires that no deputy may carry a pistol unless he has completed this course.

A statewide pistol shooting competition was conducted for the deputy force. All who participated did so at their own expense.

Ninety-five persons successfully passed the deputy examination and are in the process of being appointed.

Radio

The communication system of the Commission consists of 250 mobile sets assigned to salaried officers, 1,100 mobile sets owned and operated by deputies, 68 base stations, 11 consoles, 84 portable units, and 37 control towers that permit instant contact in all areas of the Commonwealth. Two hundred mobile units were purchased in the fiscal year to replace obsolete units purchased in 1958. Officers, through the use of this equipment, are able to apprehend many persons who deliberately violate the Game Law. The entire system is available for use by Civil Defense in the event of any emergency. The cost of operating the system during the fiscal year was \$218,554.

The number of units the system will accommodate is near the saturation point. Any large increase would boost proportionately the interference in transmission and reception of the system. Each field officer is equipped with a mobile radio unit. Portable units are also available for their use.

Uniform Equipment

A new summer uniform has been ordered for personnel engaged in Law Enforcement work. The new uniform is a police type which should also fill the need for a dress uniform.

New badges have been furnished Salaried Officers; they are worn on the outside of the uniform and aid in identifying the person as an officer. This badge was so well received by the Salaried Officers and improved their appearance so much that we have now ordered badges for deputies which are similar in size and are to be worn on the outside of their uniforms.

The deputy uniform regulations were rewritten and adopted by the Game Commission. New trousers and jackets are included, which should greatly simplify the purchasing of this uniform by the deputies.

Red flashing lights were obtained for each Salaried Officer who might be involved in law enforcement. This was made possible by an act of the Legislature which permits these lights to



SEVERAL OF THE 64 persons who took the taxidermy exam in June. in the 1976-77 fiscal year, 3,040 special permits of various kinds were issued by the Division of Law Enforcement.

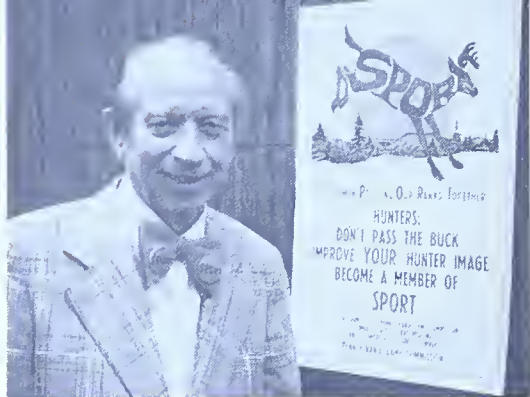
be mounted on Game Commission-owned cars. These lights help in law enforcement and add safety when picking up highway-killed deer.

The cost of furnishing uniforms and equipment to our officers continues to climb, as each item shows an increase in price each time it is purchased. The cost of uniform equipment for this fiscal year was \$89,000.

Special Permits

The Game Commission issued 3,040 special permits for various activities and collected \$40,390 in permit fees. This income figure is misleading, as the costs of servicing these permits may be more than the income derived from them. Other permits, including bird banding, are issued without charge. The following permits were issued in the 1976-1977 fiscal year:

Collecting		
Gratis	20	\$ 0
Fee	30	300
Disabled Persons	1133	1133
Dog Training	162	3240
Falconry	87	870
Ferret Breeders	1	50
Ferret Owners	0	0
Field Trial	87	435
Fox Hunting	37	1850
Fur Dealers	233	5825
Fur Dealer Employee	47	470
Fur Dealers—		
Nonresident	33	3300
Permit to Mount		
Gratis	49	0
Fee	176	352
Propagating	384	5760
Regulated Shooting		
Grounds, Private	150	6710
Regulated Shooting		
Grounds,		
Commercial	29	2210
Release and Retrap Quail	51	510
Retriever Trial	36	360
Roadside Menagerie	46	690
Special Retriever Dog		
Training Area	10	350
Taxidermy	239	5975
TOTAL	3,040	\$40,390



COMMISSIONER ROBERT Fasnacht sports a pair of buttons on his bowtie. The SPORT program, Initiated last year, is supported by posters, bumper stickers, leaflets and several other items used by game protectors, hunter education instructors, schoolteachers, sportsmen's clubs, etc. This program has been admired and copied by other states.

The long and expensive process of adopting falconry regulations which complied with Federal rules is just about completed. Those holding 1976 falconry permits were given the examination and have been issued joint Federal-State permits. We are now in the process of placing markers on all hawks and owls in captivity with the exception of those being held for zoological purposes or for rehabilitation. We have renewed 64 falconry permits of the 87 who held a 1976-1977 permit. Three failed the examination and the remainder did not take the examination for various reasons. We had not been able to accept applications for new falconry permits during the time these new rules were being adopted and implemented. We have recently sent applications to 22 persons who had applied for an application during this time.

The number of resident fur dealers increased from 174 to 228 in one year. This was largely influenced by the high prices furs are now bringing.

The taxidermy examination was held in Huntingdon on June 21 and 22. There were 72 applicants. Seven failed to appear, one was disqualified, 32 passed, and 32 failed.

The bird banding permits continue to increase despite our insistence that all new banders have a project and the qualifications to conduct the study. There are 243 persons licensed to band birds in Pennsylvania. They should be generating a wealth of scientific information. We will continue to screen new applicants for this permit.

Assistance to Other Agencies

Whenever possible, Game Protectors render assistance to other agencies of the Commonwealth, such as Pennsylvania State Police, Pennsylvania Fish Commission, Department of Agriculture, Department of Health, and Department of Education. Officer wages and expenses while assisting other agencies are borne by the Game Commission. Personnel from these agencies reciprocate by assisting and furnishing

guidance in matters related to enforcement and wildlife management.

Legislation

During the fiscal year, the General Assembly approved two amendments to the Game Law. The Commission is now authorized to pay from the Game Fund \$200 per acre for State Game Land. This is double the amount permitted in prior years. The other amendment increased the annual expenditure for bear damage from \$7,500 to \$25,000. Adequate funds are now available to cover payment for damages done by bear, under certain conditions.

Wildlife Damage

Legislative Act 177, which became effective on July 9, 1976, increased the amount the Game Commission may pay annually for bear damage from \$7,500 to \$25,000. This allowed us to clear up a backlog of 61 old claims from the previous fiscal year and pay 91 new claims for a total amount of \$13,736. The majority of claims were paid for damage to beehives. Recent years have shown a big increase in the cost of bees and bee keeping equipment. The price of honey has also increased greatly. Bear damage claims were paid in 28 counties.

A total of 24,183 deer were recorded as being killed on the highways during this past year, nearly 6,000 less than the previous year which was an all-time high. Deer disposal is a time consuming and costly operation. We have to meet the strict requirements for the disposal of solid wastes as set by regulations enforced by the Department of Environmental Resources. In addition to the damage to vehicles caused by collisions with deer, there were many damage complaints concerning deer and damage to various crops and shrubbery. We furnished deer-proof fencing to 11 persons for a total of 77,550 feet of fencing and 350 pounds of staples.

Many complaints were serviced concerning birds and animals ranging in size from elk to chipmunk. The total cost of servicing all damage complaints, which included disposal of roadkilled deer, was \$155,325.

DIVISION OF INFORMATION & EDUCATION

The primary objective of the I&E Division continues to be informing and educating: (1) Game Commission personnel, including those volunteers in cooperative programs; (2) the general public—both hunting and non-hunting; (3) the hunter, emphasizing both his image and his responsibilities. Planning, preparation, production and implementation of programs and supporting materials have highest priority.

Game News

This is the official monthly publication of the Game Commission. Scanning the table of contents at random provides an insight into its

many functions—informing and educating as well as entertaining. Special features provide educational material for teachers, discussion aids for youth group leaders, information to make the hunter more proficient and more aware of his responsibilities, and background information on current events to heighten the general public's awareness of the conflicts and other interrelationships of people and wildlife. The magazine is available by subscription at \$3.00/yr., or \$7.50/3 yrs. Present subscribers total approximately 200,000, including 33,000 non-residents of Pennsylvania. Free distribution of the magazine is made to schools and libraries as an extension of the educational efforts of the Commission, and to cooperators in the Farm-Game or Forest-Game programs as "payment in kind" for services rendered to the hunters. Subscriptions returned approximately \$452,000 to the Game Fund this fiscal year. Working in cooperation with other states and the American Assoc. for Conservation Information we were successful in securing special second class mailing privileges for GAME NEWS. This has resulted in an annual savings of \$35,000 to \$40,000.

Information

Keeping the public aware of wildlife issues, problems and developments as well as keeping the hunters abreast of hunting conditions, time tables and management programs are basic to the success of the Commission's efforts. Releases are made to the mass media on a regular basis—approximately 1,500 of them this past year. Many feature stories about wildlife were distributed to newspapers and magazines. Nearly 300 radio-TV programs, including news, interviews, discussions and public service announcements provided the broad coverage needed. Many field officers provided local radio-TV stations with regular programming on wildlife issues. Appearances at public discussions provided improved communications at the local level. Nearly 6,000 meetings were attended with a total audience numbering almost 400,000.

Nearly 200,000 pieces of free literature were distributed in response to requests about specific programs, activities, or species of wildlife. New fact sheets and leaflets were developed on otters, crows and ravens, woodpeckers, beavers, bobwhite, wild turkey, elk and black bear. Sale of paid publications returned over \$40,000 to the Game Fund. Three books were revised and updated.

Wildlife educational films were used over 4,000 times and were shown to approximately ¼ million people. Several new films were added to our divisional libraries: perhaps the most notable one is entitled "The Right to Hunt." It tells the sportsmen's side to recreational hunting and is more than adequate as a rebuttal to "Guns of Autumn." Narrated 35mm color slide presentations exceeded 1,500.

Conservation Education

Educational efforts were directed primarily toward the youth and their environmental pro-

grams this past year. Work books, discussion guides and project supervision were provided in cooperation with the Pennsylvania Department of Education to Future Farmers of America (FFA) participants in conservation projects. Instruction was provided to teachers at all grade levels who participated in outdoor education workshops over the state. A teaching guide (10-Day Unit) was developed last year for intermediate and high school level. A companion unit entitled "Kids, Wildlife and Their Environment" was developed this year for use at the elementary level. Career guidance and counseling were given in many areas as part of school career day programs. Division personnel prepared, constructed and manned a conservation exhibit during the 9th National Boy Scout Jamboree held this year in Pennsylvania for approximately 35,000 Scouts. Nearly 150 other exhibits were prepared which were viewed by an estimated 1½ million persons. Many of these exhibits were in cooperation with sportsmen commemorating National Hunting and Fishing Day.

Hunter Education

The SPORT Program—for and by hunters—is receiving increased attention and support, not only by hunters but also by the general public. The program is designed to promote better hunting ethics. New support materials have been made available in quantity, and more are in production. The program is now an integral part of our educational efforts with young hunters preparing to purchase a hunting license for the first time.

The compulsory hunter education program has been provided since 1969 by the Pennsyl-

THE 1977 NATIONAL BOY Scout Jamboree at Moraine State Park provided a large, enthusiastic audience for the Commission's education effort. Education Specialist Lou Hoffman chats with Scouts at start of the Conservation Trail.



vania Game Commission with the assistance of qualified and certified volunteer hunter education instructors. Each year, approximately 50,000 first-time hunters under the age of 16 receive a minimum six-hour course for certification to purchase a hunting license. Refresher training has been presented to all game protectors and is now being completed for all active volunteer hunter education instructors.

During the annual reporting period ending June 30, 1976, there were 830 hunter education classes presented with 48,550 students certified. During the same period 341 new instructors were certified by the Pennsylvania Game Commission. GAME NEWS articles, hunter education newsletters, hunter education information sheets, bumper stickers, hunter ethics and responsibility leaflets, table placemats and various exhibits provided by the I&E Division were used for promoting hunter education. In addition 65 films and 100 slide lectures were furnished to field personnel for

hunter education. Hunter education and marksmanship were also taught at conservation camps and the Penn State University Conservation Lab for teachers.

Support Services

In addition to the preparation and construction of exhibits mentioned previously as part of our education programs, displays and backgrounds were provided for interpretive centers located at various Commission facilities. Additional services included both movies and still photography coverage for all divisions within the Commonwealth. The purposes may be informational, instructional, or historical as well as program documentation and evaluation. Original movie footage is being brought up to date and revisions are being made to several Game Commission films. A new movie is being produced to show non-game species benefits from habitat management on State Game Lands.

P.G.C. Financial Report July 1, 1976 to June 30, 1977

By Edward T. Durkin, Comptroller

The Game Fund balance as of June 30, 1977, rose to \$17,497,333.23. This figure represents an increase of \$1,040,006.61 over the previous fiscal year.

Total revenue received amounted to \$21,080,829.04, an increase of \$682,386.61 over the previous fiscal year. This increase was due primarily to increases in Federal Aid and the sale of wood products. It should be noted that hunting license sales were almost the same as the previous fiscal year, which suggests that the total number of license sales has just about peaked.

Expenditures and commitments during the 1976-77 fiscal year totaled \$20,716,130.14. This figure represents a \$2,245,311.42, increase over the previous fiscal year due mainly to higher salaries and employee benefits as well as land acquisition costs. Increases were also noted in almost all other operating expense categories.

In reviewing the future requirements of the Game Fund, it should be noted that the current year's budget is approximately \$1,000,000 higher than anticipated revenue. This trend will continue and will become larger in future budgets. In addition, the Game Commission has been ordered by the Department of General Services to vacate our present headquarters in the South Office Building in the Capitol complex. This action forced the Game Commission to seek rented quarters in another section of Harrisburg. The Commission recently completed a lease agreement that will cost approximately \$180,000 per year for a period of five years. As a result of this change, the Game Commission has given renewed attention to the possible construction of a headquarters building on a site presently owned by the Commission in Har-

risburg. Preliminary cost estimates total \$3.2 million.

The above factors will have the impact of substantially reducing the Game Fund balance in succeeding years.

Mandated and Earmarked Funds

Act 271 of the Game Law provides that not less than \$1.25 from each resident hunter's paid license fee shall be used solely for the selection, restoration, rehabilitation and improvement of lands available for public hunting, to provide and improve habitat for the purpose of producing natural propagation of wildlife. During the last fiscal year, expenditures for this purpose totaled \$3,438,105.16, which exceeded minimum requirements of this Act by \$2,236,905.16.

Act 632 of the Game Law states that \$1 of each fee collected for issuing resident and nonresident hunters' licenses and tags for antlerless deer shall be used solely for cutting or otherwise removing overshadowing tree growth, to produce underbrush sprouts and saplings for deer food and cover on Game Lands. Expenditures during the last fiscal year in regard to this act were \$606,869.92, which exceeded the required minimum by \$166,784.92.

The Project 500 Fund is a statewide bond issue passed by the Legislature in 1968 for the conservation and reclamation of the land and water resources of the Commonwealth. During the 1976-77 fiscal year, the Game Commission expended and committed \$1,664,744.99, for a total of \$20,911,431.55 expenditures and commitments to date from the Project 500 Fund.

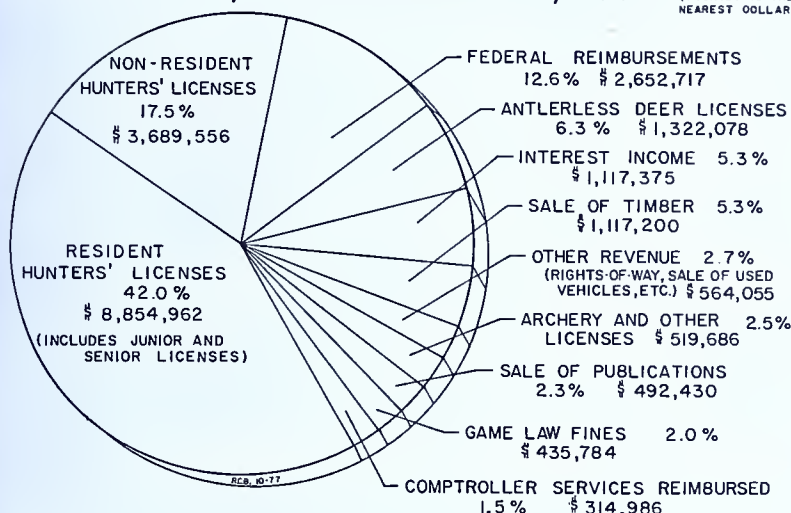
The operations of the Pennsylvania Game Commission for the 1976-77 fiscal year are detailed in the following financial statements.

GAME COMMISSION REVENUE

\$ 21,080,829

JULY 1, 1976 TO JUNE 30, 1977

(ROUNDED TO THE NEAREST DOLLAR)

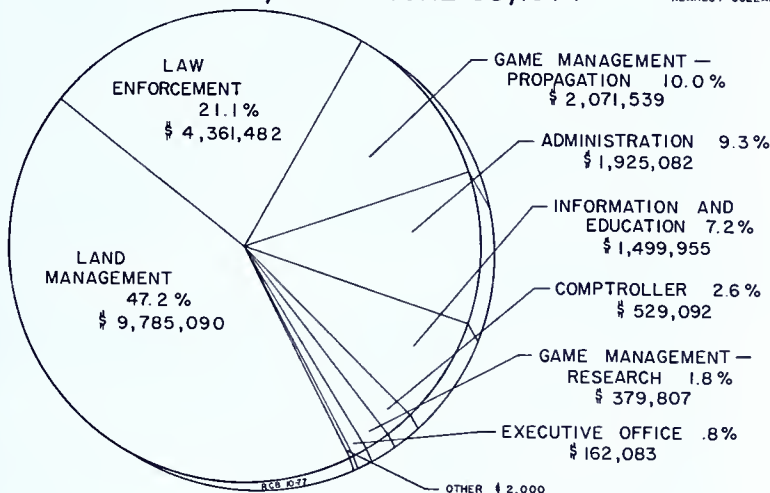


GAME COMMISSION EXPENDITURES AND COMMITMENTS

\$ 20,716,130

JULY 1, 1976 - JUNE 30, 1977

(ROUNDED TO THE NEAREST DOLLAR)



PENNSYLVANIA GAME COMMISSION

GAME FUND AMOUNT AVAILABLE FOR COMMITMENT & EXPENDITURE, 1976-77

Amount Available for Commitment and Expenditure, July 1, 1976	\$16,457,326.62
Plus: Prior Year Adjustment-Cancellation of Prior Commitments	675,307.71
Adjusted Amount Available, July 1, 1976	\$17,132,634.33
Results of Operations-1976-77 Fiscal Year	
Total Revenue	\$21,080,829.04
Less: Expenditures and Outstanding Commitments	20,716,130.14
Net Operating Increase	366,698.90
Amount Available for Commitment and Expenditure, June 30, 1977	\$17,497,333.23

**GAME COMMISSION COMMITMENTS & EXPENDITURES
FUNCTIONAL PROGRAM ACTIVITIES
FISCAL YEAR 1976-77**

EXECUTIVE OFFICE		\$ 162,082.61
COMPTROLLER OPERATIONS		529,092.14
ADMINISTRATION:		
Field Division Offices	\$ 716,671.22	
Hunting License Section	426,668.14	
Personnel Section	277,065.23	
Internal Stores	171,660.29	
Training School	150,877.51	
Data Processing Section	116,898.86	
Procurement Section	65,241.33	
		1,925,082.58
INFORMATION & EDUCATION:		
Information and Education	\$ 743,240.84	
Pennsylvania Game News	550,631.62	
Hunter Safety Education	124,386.59	
Photographic Section	81,695.78	
		1,499,954.83
GAME MANAGEMENT-PROPAGATION:		
Pheasant Program	\$ 1,688,469.12	
Turkey Program	269,432.38	
Mallard Duck Program	89,392.28	
Rabbit Trap and Transfer Program	12,155.09	
Hurricane Eloise Restoration Work	12,090.25	
		2,071,539.12
GAME MANAGEMENT-RESEARCH:		
Deer Study	\$ 115,084.03	
Turkey Study	81,680.07	
Rabbit Study	62,965.19	
Black Bear Study	34,829.29	
Waterfowl Banding	29,627.23	
Ruffed Grouse Research Project	27,059.94	
Waterfowl Research Project	22,874.76	
Mourning Dove Research Project	5,686.21	
		379,806.72
LAW ENFORCEMENT:		
General Law Enforcement	\$ 3,455,562.26	
Deputy Law Enforcement	466,640.11	
Radio System	218,554.17	
Servicing Wildlife Complaints	155,325.04	
Deputy Training	47,198.71	
Assistance to Other Commonwealth Law Enforcement Agencies	18,201.53	
		4,361,481.82
LAND MANAGEMENT:		
Game Lands-Management, Development and Administration	\$ 5,612,784.06	
Land Acquisition Program	2,285,766.99	
Farm Game-Management and Development	455,370.09	
Waterfowl Management-Special Areas	333,851.18	
Forestry Section	333,537.86	
Survey and Drafting Section	274,726.04	
Pittman-Robertson Federal Aid Adminis- tration	166,638.99	
Howard Nursery	161,793.64	
Other Lands-Management and Development- Minerals Section, Rights-of-Way Adminis- tration	122,825.34	
	37,796.13	
		9,785,090.32
Expenditures & Commitments from Game Fund by Other State Agencies		2,000.00
TOTAL EXPENDITURES & COMMITMENTS		\$20,716,130.14

P.G.C. COMMITMENTS & EXPENDITURES—July 1, 1976, to June 30, 1977

Salaries	\$ 6,981,631.60
Wages	2,982,659.70
State Share-Employee Benefits	2,628,755.63
Land Purchase and Acquisition Costs	2,202,583.96
Printing and Advertising	861,150.23
Automotive Repairs, Supplies, and Rentals	698,157.91
Maintenance and Improvements of Buildings, Grounds, and Machinery	601,772.41
Purchase of Automobiles, Trucks and Jeeps	523,795.56
Pheasant and Turkey Feed	489,517.17
Travel and Special Conference Expenses	282,716.05
Postage	261,741.04
Telephone Expenses and Communications Equipment Purchases	246,477.95
Payment to Local Municipalities In-lieu-of Taxes	237,520.74
Payments to Other State Agencies:	
Auditing Services	53,887.42
Duplicating and Reproduction Services	53,697.97
Data Processing	51,577.94
Purchasing Services	22,275.15
Personnel Services	21,201.17
Checkwriting and Disbursement Services	7,833.04
Legal, Appraisal, and Consulting Fees	178,195.89
Purchase of Tractors, Mowers, Cultural and Other Equipment	166,060.17
Heating, Power & Light	161,973.30
Wildlife Habitat Seedlings and Plantings	160,519.19
Radio Equipment Purchase & Contracted Maintenance Service	151,281.72
Office Equipment, Maintenance, Rentals and Supplies	128,221.60
Educational Supplies and Photographic Equipment	118,766.48
Uniforms for Game Commission Personnel	114,067.25
Other Equipment and Supplies (Traps, Ammunition, Boats)	80,385.78
Rental of Tabulating and Xerox Equipment	63,493.09
Research Grants to Universities and Wildlife Associations	61,360.00
Insurance-Auto, Liability, Fidelity	53,850.99
Building Rentals and Land Rights-of-Way Leases	41,769.25
Payments to Individuals for Bear Damage Claims & Deer-Proof Fencing	25,232.79
Game Commission, General Operations-Total	\$20,714,130.14
Replacement Checks, Treasury Department	2,000.00
TOTAL	\$20,716,130.14

P.G.C. REVENUE—July 1, 1976, to June 30, 1977

Resident Hunters' Licenses	\$ 7,723,955.60
Resident Junior Licenses	845,110.10
Resident Senior Licenses	285,896.30
Non-Resident Hunters' Licenses	3,689,555.80
Antlerless Deer Licenses	1,322,078.50
Archery Licenses	451,055.10
Special Game Permits and Other Licenses	68,631.10
Game Law Fines	435,783.74
Federal Aid for Wildlife Restoration, Recreation & Research	2,545,806.36
Federal Reimbursement for Land Acquisition	106,910.47
Interest on Securities and Deposits	1,117,374.58
Sale of Timber and Other Wood Products	1,117,199.74
Game News Subscriptions and Sale of Publications	492,430.49
Reimbursement for Comptroller Services	314,985.93
Other Revenue:	
Rights-of-Way License Rentals	157,327.29
Sale of Used Automobiles, Tractors, etc	132,025.00
Miscellaneous (Sale of Maps, Prior Year Expenditure Refunds, and Donations)	72,381.46
Sale of Coal, Stone, Gravel and Limestone	56,112.34
Sale of Grain and Hay	48,479.77
Ground Rentals and Royalties from Gas & Oil Leases	46,741.38
Sale of Skins and Guns	29,947.23
Sale of Unserviceable and Non-Usable Property	21,040.76
TOTAL REVENUE	\$21,080,829.04

'76-77 —



175 DEPUTY GAME protectors attended week-long training sessions, including topics from public speaking to trapping regulations. Practical police shooting (above) was part of required firearms training.



BARB MITCHELL calls up a record for Personnel Officer Jim Mort in the Harrisburg office. The computer 'scope and the printer at its left make recordkeeping and retrieval faster and easier.

A BUSY



HYDRO AX—a giant rotary mower—clears one of several small plots on SGL 176 for a study of intensive management for grouse. Above, same area in March 1977 immediately after cutting. Aspen and scrub oak stump and root sprouts up to four feet high now cover the area.



EDUCATION IS IMPORTANT. EVEN WITH all their other duties, officers made time for many programs, with audiences totalling close to 400,000 persons. Here, DGP Andy Martin (Erie County) chats with Brownie Scouts about the waterfowl displayed in Slegel Marsh Visitors' Center.

YEAR

FOUR INCHES OF HEAVY, wet snow hit holding pens at the Western Game Farm in October 1976. The weight collapsed nets, pinning pheasants. Game Farm employees (from left) Edna Cutchall, [unclear] McEntire and Beverly Holland helped other employees, officers, deputies and sportsmen to rescue the birds. About 267,800 ringnecks were used in '76-77.



SERVICING ANIMAL damage or nuisance complaints takes much of a field man's time. Fred Weigelt (DGP, Wayne County) breaks up nuisance beaver dam, a change from squirrel-in-the-attic and skunk-under-the-porch calls.



FIELD NOTES



Hanging In There

MIFFLIN COUNTY—Pennsylvania's senior active deputy tucks another hunting season under his belt. Although not quite as active as he once was, Mifflin County Deputy Stewart Rager spent many hours patrolling this fall, making it 50 hunting seasons he has worked as a deputy. Besides patrolling, Stu, like all deputies, handled many phone calls and cared for deer hides from highway or illegally killed deer. A special thanks to Stu, who I'm sure is contemplating "51", and to all my deputies who do so much, for so little.—DGP Tim Marks, Belleville.



Elementary, Watson

ROSS LEFFLER SCHOOL OF CONSERVATION—Everyone here constantly tries to sharpen his outdoor skills. One trainee found some droppings he could not identify. He called an experienced trapper over and by the process of elimination they ruled out raccoon, opossum, skunk and fox, but were still puzzled. It took an experienced tobacco chewer to tell them what it was!—Trainee Don Smith.

Still With Us

ARMSTRONG COUNTY—Nice going slobs! Again I had the unpleasant task of cleaning up after your dirty work. You know the work I mean—the doe you shot through the lower spine and left to crawl around the field until I got there and ended her suffering. Oh, yes, and do you remember that field of alfalfa you drove through on the same night to look for even more deer? The landowner is a nice guy, though, and says he'll keep his land open to hunting. He's pleased that we did manage to catch you in the act of several foul deeds. Personally, I can't think of anything more satisfying than seeing you clowns pay for what you've done!—DGP Al Scott, Rural Valley.

Ghosts

ROSS LEFFLER SCHOOL OF CONSERVATION—Current rumor is that we may be the last class to use these facilities for training, as the Game Commission is planning to build a new complex in the Harrisburg area. Trainee Don Smith and I had the not-so-preferred duty of watching the grounds one weekend after the other trainees had gone home. After everyone had left we discovered how silent this place could be. We could almost feel the presence of ghosts in the walls. Ghosts left behind by all the previous trainees. Much sweat, anxiety and studying, as well as fond moments which take place here before graduating to become a Game Protector. I'm sure every trainee left a little of himself behind when he left these halls. No doubt the 17th Class will leave some ghosts behind also.—Trainee Steven A. Shorts.

SPORT Strikes Again!

LYCOMING COUNTY—A sports-minded family of four, while taking a Sunday drive this summer, surprised a group of poachers attempting to load a freshly killed deer into their car. The sportsmen jotted down the car's license number and reported the violation immediately. They were even willing, if necessary, to take a day off from work and travel a three-hundred-mile round trip to testify against the violators in court. As a result of their effort, our investigation ended with the prosecution of all three men involved. If all sportsmen would take such initiative not only would our job be easier, but the future of sport hunting as we know it today would be much brighter.—DGP Bill Hutson, Muncy.

Attaway!

NORTHAMPTON COUNTY—I received a pleasant comment recently from Farm-Game Cooperator Carl Becker of Northampton. He had seven groups of dove hunters on his farm on opening day and each took the time to stop and ask permission to hunt. Needless to say, Mr. Becker was very pleased. It looks like our SPORT program is beginning to pay dividends.—DGP Richard W. Anderson, Nazareth.

Very Small 'Hog

BERKS COUNTY—It's certainly no secret that many people could use some brushing up on their wildlife identification. This morning was a perfect example. An elderly woman called to inform me that the groundhog which had taken up residence under her porch was now in the trap we'd set. Since the woman was quite old and lived alone, I soon went to her rescue. What I found when I got there, though, was a tiny field mouse running from one end of the trap to the other. The little fellow was so nervous he didn't even pause to say thanks when I opened the door and released him.—DGP Michael W. Schmit, Shillington.



All In Good Fun

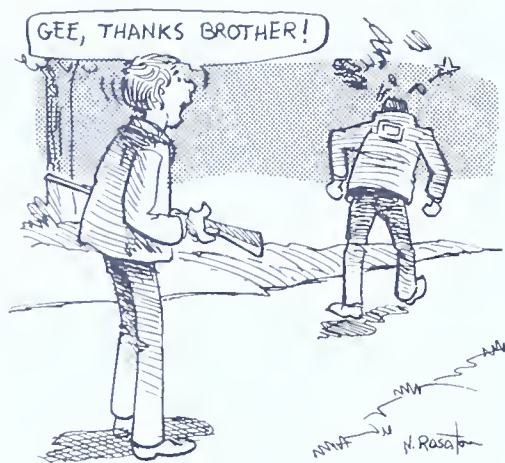
PERRY COUNTY—While returning from night patrol, Deputy Bowman and I observed what we thought were two cats playing in the middle of the road. As we came closer, it became apparent one was a cat; however, the other was black with a white stripe down the middle of its back. As we stopped at a safe distance, the playing ceased, one tail was raised and we had a very surprised and smelly cat.—DGP Elwood L. Camp, Jr., Elliptsburg.

Few Slobs

MERCER COUNTY—I spent a lot of time last fall contacting Safety Zone Program cooperators in my district. Out of nearly 100, only three or four had any problems with hunters themselves. With all the attention being focused on the slob hunter, I would like to salute the majority of the hunting fraternity who DO conduct themselves in a sportsmanlike manner.—DGP Barry K. Ray, Greenville.

Oh, Well . . .

ROSS LEFFLER SCHOOL OF CONSERVATION—Even after extensive training in handgun shooting, the trainees have come to one conclusion: they will never be able to match television star Kojak in being able to shoot from the hip with a snub-nose 38 and knock something down at 200 yards.—Trainee Rich Skubish.



Hard Luck Harry

CUMBERLAND COUNTY—During more than 20 years with the Game Commission I have listened to some hard luck stories from hunters, but this one tops them all. During the 1938 season, Ted Hake of York was hunting small game. A pheasant flushed. He shot and wounded the bird, ran around a clump of brush for another shot and tripped. He fell on a rabbit and his shotgun flew out of his grasp and flushed a covey of quail! He became so disgusted he sold the shotgun to his brother and bought a movie camera and has been an avid birdwatcher ever since.—DGP E. F. Utech, Boiling Springs.

Strange Bedfellows

SCHUYLKILL COUNTY—At the recent Southeast Division Deputy Conference a certain district game protector from the western part of Schuylkill County found himself in a humorous situation. He noticed a bulge in his sleeping bag when he rolled it out, but paid no attention to it. The next morning he examined the bag to see what had made his night so uncomfortable. Lo and behold—a little yellow cloth duck. Can you imagine the time he had trying to explain his bed partner to the several watching deputies? They did not let him forget about his “widdle yellow ducky” for some time.—DGP S. L. Opet, Tamaqua.

How Not to Do It

ROSS LEFFLER SCHOOL OF CONSERVATION—Recently the Training School conducted an open house. It was an enjoyable learning experience for everyone. A major attraction for the visitors was our three ferrets. Many people asked about them and we explained why they are illegal in Pennsylvania. Knowing them to be quite tame, I removed one from the cage to show some of my friends. The small weasel-like creature immediately crawled up the front of my shirt and latched his jaws onto my neck. Not particularly wanting a ferret for a necktie, I removed him with some difficulty. Needless to say, I learned a lesson about handling live animals in front of the public.—Trainee Jim Donatelli.

Avon Man

CENTRE COUNTY—The other day I met the sportsman's equivalent of the Avon Lady. I was in the Milesburg area and thought I'd stop at the trapper's supply house located there to see what was new. It happened that Jim Karl, the proprietor of the shop, had just gotten in a new batch of trapping lures. So with statements like, “Now here's a wonderful new aroma,” and “This is a scent that will drive them crazy,” we sniffed our way through his selection. Needless to say, though, we did not dab any behind our ears.—DGP George Mock, Coburn.

Hot Stove

Some miscreants broke into a storage building and a Commission dwelling at one of our Game Lands and made off with some valuable modern and antique tools and equipment, among other things. They even stole into our little primitive office and there is now a hot potbellied stove out there somewhere. You have, no doubt, heard the line, “They copped everything but the kitchen sink”—well, they got that, too.—LMO:W. J. Lockett, Perkaspie.

Is That 'Chuck's Cousin?

CLARION COUNTY—Larry Gusin, a young hunter of my acquaintance, made plans to go dove hunting with some friends. When he asked his mother for permission, she was not sure there was such a season so she told Larry to call me to make sure. Since Larry knew that dove season existed and was in, and didn't want to embarrass himself by calling me, he decided to call the issuing agent where he had purchased his license. When a store clerk answered the phone, Larry politely asked, "Is dove season in?"; the clerk replied, "Does he work here?"—DGP Gordon J. Couillard, Clarion.

It Was a Very Good Year

ERIE COUNTY—It has been an exceptional season for geese in this area. Just about every little pond had geese on it, some flocks numbering in the hundreds. One late September day, I saw a small flock of geese flying over very low. Thinking their calls unusual, I took an extra look. To my surprise, it was a flock of six blue geese—a rare sight here.—DGP Russ Meyer, Fairview.

Thoughtless Consequences

ROSS LEFFLER SCHOOL OF CONSERVATION—While fishing along Little Pine Creek in Lycoming County, I heard a muffled thumping coming from a thick patch of crown vetch on the bank. Being suspicious but not overly fond of snakes, I eased up to the area and parted the vetch with my fishing rod. There was a plastic one-gallon milk container with the top cut out for use as a bait holder. Inside was an Eastern box turtle, fighting for its life. The turtle would crawl up the side, getting about halfway up before sliding back to the bottom, causing the thump. After I released it, the turtle ambled off, apparently in good condition. This incident points out the potential consequences of litter.—Trainee Steve Schweitzer.

Remember—And Act

VENANGO COUNTY—Too seldom does our mind turn from the joys of hunting and the outdoors to the farmer who feeds our wildlife and tolerates the damage it causes. He also must suffer destruction caused by slob hunters and vandals. Maybe we should think about contacting him and asking what we may do now to help him protect the land we hunt on.—DGP Len Hribar, Seneca.

Natural Help

ROSS LEFFLER SCHOOL OF CONSERVATION—While I was home on leave recently, a discussion about the general size and condition of the deer herd led to a deer damage complaint in reverse. A local resident stated he was extremely happy that the deer had finally started eating the apples from under a tree in his yard, and that he hoped more would come to help. He said he wasn't about to clean up his yard if the deer would do it for him.—Trainee William C. Wingo.



Problems, Problems

BRADFORD COUNTY—Deputy Fred Wheaton reports that farmer/sportsman Mac Russell of Orwell Hill has taken up hunting woodchucks with a muzzleloading rifle. Fred says Mac is having difficulty finding out whether he is getting any woodchucks, as the black powder smoke conceals everything when he shoots and then he can't find the spot he fired at.—DGP A. D. Rockwell, Sayre.

Now That's Tired

BRADFORD COUNTY—After a long day of tearing out beaver dams, picking up road-killed deer and answering several damage complaints, I had gone to bed and was in a very deep sleep. About 3 a.m., I was awakened by the ringing of the phone. My wife got to it before I did and said it was for me. I started to talk but didn't hear any reply, only a loud humming sound. Finally, I realized I had picked up the alarm clock instead of the phone, and was trying to talk through it.—DGP Edward Gallew, Wyalusing.

First Rabbit

WESTMORELAND COUNTY—Deputy Bob Schlemmer was at the new VW plant near New Stanton on business recently. In the parking lot, some workers were moving a guard shack that was mounted on skids. As they slid it to its new location, a rabbit scooted out from under it and ran to the top of a mound of dirt and sat seemingly in disgust, watching as his home was being moved. "There goes the first rabbit off the assembly line," someone commented.—DGP Barry K. Moore, Saltsburg.

Big-Bear Trouble

CLEARFIELD COUNTY — When I arrived at the scene of a roadkilled bear, my vehicle was red hot. I found the radiator had broken loose and had a big hole in it. The only vehicle around was a coal truck, so I asked the driver if he would pull me to a telephone so I could call for help. He said he would. On the way, a State Police vehicle arrived and followed along behind me. The following week this story was going the rounds: "The other day I saw a coal truck flying down the road with a green bear (Game Protector) chasing after it. Behind him on the bumper was a real bear (road kill), and behind him was a smokey (State Police) trying to catch them both!"—DGP Wayne McGinness, Clearfield.

Piece de Resistance

TIOGA COUNTY—While I was presenting Game Commission programs at Pennsylvania's Conservation Leadership School at Stone Valley, many of the young people related some of their interesting experiences there. One of the most popular activities was wilderness survival training. In an emergency, a person can survive on many things Nature has to offer, among which are various insects. One fellow's greatest achievement was swallowing a "daddy longlegs." If I understood correctly, it's all in the way you fold the legs.—DGP Lynn Keller, Wellsboro.

Logical, But . . .

CLINTON COUNTY—I was in my office changing my Game Commission calendar from September to October. My six-year-old son, Johnny, watched in anticipation of the next wildlife print to appear. The print was excellent indeed; it portrayed a covey of quail exploding through an abandoned farm field on a colorful autumn day. Johnny asked which season was open and I answered, "Archery." He glanced back at the quail and asked, "Are they archeries?"—DGP John Wasserman, Renovo.

Problem Solver

NORTHUMBERLAND COUNTY — A young man was in the checkout line ahead of me in the store, and among his purchases were two mousetraps. It seems his wife had purchased a hamster and on the way home from the store it escaped and got into the air conditioning system of the vehicle. Seeing my uniform, the man asked if I could do something to solve his problem. My suggestion was to use a strong aerosol spray and perhaps the vapor would convince the animal to leave. But another shopper who overheard the conversation had the most foolproof remedy—sell the car!—DGP J. M. Kazakavage, Sunbury.

Try the Real Thing

It really amazes me the number of people who encourage the use of fake furs rather than the real thing. And when you question them as to what fake fur is made from, very few realize it is a byproduct of petroleum—a non-renewable resource.—CIA John Badger, Ligonier.

Neat!

ADAMS COUNTY—Recently while on patrol on State Game Lands 249, I was greeted by an old friend that I first met in March of 1975 in the same area. The friend is an albino red-tailed hawk. When the bird was observed in 1975 it was completely white except for the bright orange-red tail. The only change was that the tips of the wings have become dark brown. I felt privileged to see the bird the first time, and to see it a year and a half later, putting on an aerial display such as this, really makes being outdoors worthwhile.—DGP Gary Becker, Aspers.

Real Life vs. TV

ALLEGHENY COUNTY—DGP Barry Moore and I were trying to tranquilize a deer that had fallen into a 300x30x25-foot concrete holding tank at an uncompleted sewerage plant. After Barry had hit the deer with at least ten darts to no avail, he looked skyward and said, "Marlin Perkins, where are you?" It finally took four of us to wrestle the deer down and carry it up a wooden ladder. — DGP Sam Lockerman, Pittsburgh.

Out of His Class

CUMBERLAND COUNTY—Trainee Crowder and I checked a small spike buck that was killed by another buck. From the looks of things, he picked on a pretty big deer.—DGP J. R. Beard, Shippensburg.



Quacking Up?

ROSS LEFFLER SCHOOL OF CONSERVATION—On a field trip to Pymatuning Waterfowl Area, we were watching three deputies banding mallards and black ducks which had been live trapped on a management pond. The ducks were immediately released and most made a hasty getaway into the sky. One, however, hurried back toward the trap and started quacking to his friends inside. He was apparently waiting for his friends to be tagged and released. I could have sworn I heard him say, "These guys are pretty nice, it didn't hurt a bit."—Trainee Doug Killough.

Post-Season Project

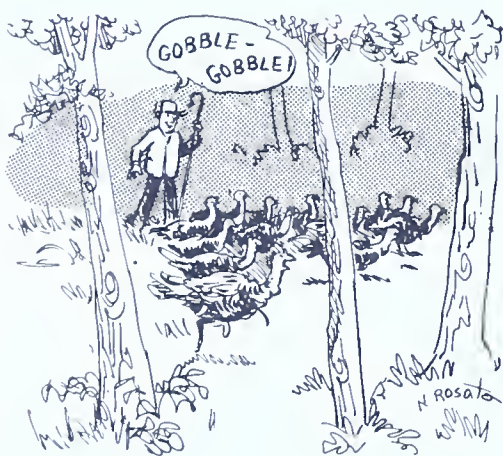
MERCER COUNTY—Do you want to do something worthwhile for non-game wildlife? It's as simple as building a bluebird house! In recent years, the bluebird population has dropped drastically; the main reason is lack of suitable nesting sites. So, after you have put the guns on the rack this winter, pulled your traps and unstrung the bow, take some time and build a few nesting devices to benefit this marvelous little bird. Let's all chip in and help the bluebird back on the road to a strong recovery!—DGP Frank S. Zalik, Mercer.

Bobbing Back

HUNTINGDON COUNTY—Because of concern that the bobcat population was critically low, the Game Commission fully protected this animal. I am happy to report sightings of bobcats here by several individuals. Unfortunately, I also have to report one killed on the highway. I guess we can't protect them from everything.—DGP Donald Parr, Huntingdon.

No Diggin' 'Em Out

CAMBRIA COUNTY — I have gotten more inquiries this year about the legality of digging foxes from their dens than in all past years combined. Surely the high value of fox pelts brought on the interest. In June, 1976, the fox was designated a furbearer. This means that hunting and trapping are allowed but digging foxes out of their dens so people can possess them is illegal.—DGP D. W. Jenkins, Patton.



We've Got Wild Ones

MCKEAN COUNTY—Deputy John N. Chapman, Jr., who is a forester, related the following story to me. Seems that a new employee from another state saw a flock of turkeys in the Allegheny National Forest. He returned to the office, worried; since he couldn't find the herdsman, he was sure the birds had run away.—DGP Guy Waldman, Lewis Run.

Renewal

LUZERNE COUNTY—If you ever observe a Conservation Officer admiring a beautiful sunset, a brightly colored butterfly on a flower or swallows catching insects over a lake, don't be concerned about him. He'll be all right. He's just trying to put it all back together after listening to everyone's complaints about the rabbits and woodchucks in the garden, raccoons in the sweet corn, bears in the bee hives, deer in the crops and beaver dams flooding fields.—DGP Bob Nolf, Conyngham.

Just Think . . .

BLAIR COUNTY—A deputy apprehended several individuals attempting to take deer at night. The situation became somewhat hostile, and the deputy called for assistance. Thinking he was out by himself, he soon found help on the way. Deputy McIntyre in the neighboring district was first to hear him and, though some 40 miles away, responded. Deputy Kleiner picked up the call via monitor and responded. Two other mobile units, myself and WWP Rosser and Deputy Grimm and SWWP Corl also responded to the call for assistance. Just think what the response would be if these men were paid!—DGP H. Larry Harshaw, Hollidaysburg.

New Neighbor?

CHESTER COUNTY—Had a welcome visitor near my place the latter part of July. My neighbor John Roberts and his friend Lester Painter saw a golden eagle alight on top of an old dead tree in the Pine Swamp area about 100 yards from where they were sitting. When I drove into my lane they stopped me and told me about it, and said that they had seen it land and had watched it for approximately two hours before it decided to leave. They had marveled at its size and beauty through their binoculars. I hope it likes the area and decides to stay.—DGP Edward J. Fasching, Elverson.

Leave Them In the Woods!

By Ted Godshall

Every year the Pennsylvania Game Commission pleads with the public to leave wildlife in its natural habitat. Every year the pleas are ignored by many.

Every year game protectors are plagued with caring for young bunnies, robins or fawns that have been picked up by well-meaning persons who believe the creatures have been orphaned or abandoned by their natural parents. The wildlife seldom survives.

Every year game protectors go to the homes of persons who are keeping wildlife as pets, because in nearly every instance it's against the law to do so. Often there are tears or angry exchanges, and maybe even an aroused public

when conservation officers have to remove Bambi from his self-appointed, adoptive "family."

And just about every year someone with a wildlife pet pays for his or her belief that wildlife can be domesticated. Or that a squirrel or a raccoon or a deer will make a wonderful pet. Sometimes that payment can be very expensive.

A Centre Countian had a tame, pet deer. In October, the buck's natural instincts and behavior came to the fore when the owner went to the pen to feed his pet. The man was alone. So was the buck.

The man was found several hours later in the deer pen. He had been gored. By the deer. The deer was in fine shape. The man was dead.

Pennsylvania Slated for Over \$1 Million

The U.S. Fish and Wildlife Service has announced that Pennsylvania will receive \$1,169,662 as the first of two installments of federal aid funds. The money, earmarked for wildlife restoration and hunter education, originates with sportsmen, in the form of federal taxes on sporting arms and ammunition, handguns, and certain archery equipment. Money is then returned to the states according to formulas based on land area, license sales, and population. Pennsylvania usually receives a large share, since it tops the nation in hunting license sales and its population

is third largest, despite its low rank in land area. Only Texas and Alaska received more Pittman-Robertson (P-R) funds than Pennsylvania this year.

Since 1938, P-R funds have purchased 167,389 acres for Commonwealth citizens. Operations of the Game Commission's Howard Nursery are primarily funded with P-R money, and some goes toward planting the seedlings there. P-R funds pay for habitat development and landowner contacts, as well as for signs and their posting, on Cooperative Farm-Game and Forest-Game lands. Road maintenance, rabbit and turkey research, Game Lands mapping, and development of forest management plans are further benefits of these funds from sportsmen. Many groups gain: wildlife, sportsmen, farmers, forest owners, and everyone in the general public who visits Game Lands or enjoys wildlife.



STUDENTS ON THE MOVE

By Wes Bower

CIA, Southcentral Division



INSTRUCTOR DAVE HOWE (right) and students work on waterfowl identification specimens. These ducks were presented to the Game Commission to be used in future exhibits.

TO MANY high school students, the terms environment, conservation, and ecology become interrelated and at times confusing. But not so for 84 students at the Lewistown Area High School. They are members of Dave Howe's Environmental Science course.

Dave, a recent addition to the Lewistown High School teaching staff, has always had an intense interest in the outdoors. Taking on his first teaching position, this energetic instructor managed to get a course titled "Environmental Science" into the school curriculum. Howe had attended the Pennsylvania Federation of Sportsmen-sponsored conservation school for teachers and had some innovative ideas on how he wanted to pursue the new course of study.

Wanting to keep the emphasis on an "at home" level, Dave visited local state conservation agencies to, as he put it, "pick their brains as well as their resources." Contacting Tim Marks, Mifflin County District Game Protector, they sat down and put together a

comprehensive program built around Wildlife Education Specialist Lou Hoffman's 10-day teaching unit booklet. The Game Commission-planned activities include history of wildlife conservation, wildlife in the environment, ecological concepts, wildlife populations, habitat, management, and future problems.

Meeting five times a week, the students soon realized that getting involved was the fun way to do it. Making plaster casts of animal tracks; mounting duck wings on attractive display racks; building I.D. boards which would light up when contacts touched correct answers; matching bird calls to the correct bird—all these and many more projects were ongoing programs.

The course involved several field trips and the class made repeated visits to State Game Lands 113 located near Strodes Mills. This Game Commission tract proved to be their out-of-door classroom, and many of their field techniques were practiced and perfected on this 535-acre area.

Other Groups

Other local conservation groups lending a hand with this class were the Pennsylvania Fish Commission, Department of Environmental Resources, Forest Service, and Don Bashore from the Mifflin County Conservation District.

Has the course of instruction been successful? In the first year, 84 students signed up for the class, a surprising number. At this writing, 30 youths have expressed interest in taking the course this year.

Thanks to Dave Howe and volunteer instructors in the Lewistown Area, many future voters and citizens of Mifflin County will be better prepared to solve their ecological problems and to better appreciate their environment, particularly as it applies to wildlife.

GAME NEWS

Books in Brief . . .

(Order from publisher, not from Game Commission)

A Sand County Almanac Illustrated, by Aldo Leopold with photos by Tom Algire, Tamarack Press and Oxford University Press, 200 Madison Ave., NYC 10016, 152 pp., \$19.95 until Dec. 31, 1977 (\$25 thereafter). "Coffee-table" edition of a conservation classic by the "father of wildlife management." This oversize (9x12) version presents the entire text of the *Almanac* set in large type with lots of breathing space. Tom Algire's luscious color photos, most of them full-page or double-page spreads, are visual echoes of scenes Leopold painted verbally. If you're visually oriented, this book is a treasure; but those who've loved the *Almanac* for years should be warned that it's like seeing the movie after you've read the book. If in doubt, browse through it at your bookstore.

North American Big Game, ed. by Wm. H. Nesbitt and Jack S. Parker, is the 7th edition of the official records book for native North American big game trophies. The series was begun in 1932 by the Boone and Crockett Club and is recognized as the final authority on such trophies. Over 6000 trophies in 31 categories are listed, along with related information such as official scoring charts and instructions in their use, articles on wildlife research and management, the inter-relationships of cougar, deer and elk, the importance of habitat, etc. Produced jointly by the Boone and Crockett Club and the National Rifle Association, it is available from the NRA, 1600 Rhode Island Ave., NW, Washington, D.C. 20036. Price with supplement showing results of the 16th North American Big Game Awards, \$25.

Abe and Me, by Jack Murphy, Joyce Press, Inc., 4974 Cass St., San Diego, Calif. 92109, 192 pp., \$9.95. Might have been called "Life With a Lab," and that should make it a must for those hunters—and their families—who are fortunate enough to own one of these retrievers.

Your Bird Dog and You, by Mike Seminatore, as told to John M. Rosenberg, A. S. James and Co., Cranbury, N.J. 08512, 160 pp., \$9.95. Detailed instructions on getting a dog from puppyhood to finished field performer. Covers all breeds, from wide-ranging pointers and setters to close-working Brittanies and German Shorthairs.

The Outdoorsman's Emergency Manual, by Anthony J. Acerrano, Stoeger Publishing Co., 55 Ruta Court, South Hackensack, N.J. 07606, 337 pp., paperbound, \$5.95. How to understand and recognize emergencies, prevent and survive common ones, and develop skills that will be useful when an emergency arises.

GAME NEWS

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ONLY SIX X's separated the first- and second-place team scores at the 1977 Deputy Game Protectors' revolver match. DGP Joe Wiker's Centre County team, above, had 15 X's, while DGP Bill Shaver's Montgomery County team collected 9; both teams (top 4 of 5 shooters scored 995. Winning team members were, from left, Bill Evans, Dan Roland, Bob Shevchik (top individual with 285/300), Bill Sipple, Jr., and Terry Weaver. Shaver's team included Deputies Endy (2nd place individual, 273/300), Schlegel, Dietz, Spangenberg, and Vargo. The match drew 17 deputy teams from across the state.

THE 1977 DISTRICT GAME PROTECTORS' Shooting Match was a record-breaker, with the highest scores ever made in the match's 21-year history. DGP George Mock of Centre County, below right, fired a 291/300 to win the Bullseye Course and followed it with a 149/150 on the Practical Police Course, but LEA Bob Myers of the Northeast Division, below left at the 7-yard position, topped that with the first perfect 150/150 ever fired in competition on the Scotia Range. The match was shot by 195 officers.



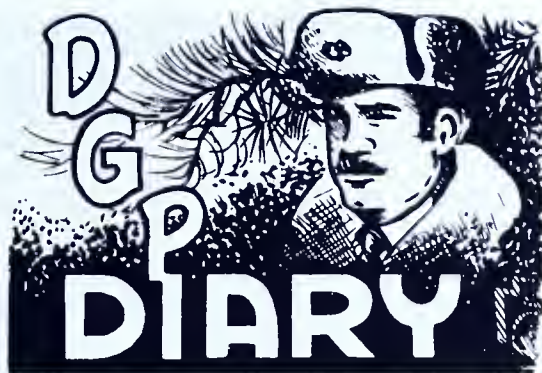
ALTHOUGH January may represent a new beginning, the game protector is living November and December. Now is the time to clean up old cases and investigations, to review evidence and notes, and to present them in court. Part of a game protector's job is to act as prosecutor for the Commonwealth before the minor judiciary, often competing against sharp defense attorneys. For this reason he must be knowledgeable in Game Law, rules of evidence, legal procedures and those court opinions which affect law enforcement activities. January is also a time to evaluate mistakes made during the whirl of deer season, and to analyze information obtained too late to do anything about. There are hunting seasons still progressing and preparations to be made before next month's beaver season begins. So, a game protector's life does not follow the calendar year as much as it does the hanging of seasons, both natural and those determined by the Game Commission.

January 4—I filed more charges before the district justice today after making certain to fill out the citations correctly. I must be sure to quote the precise section of law, and list all the other information required by the rules of criminal procedure. If I make a mistake it could be grounds for an acquittal.

January 5—Deputy Jim Farr and I investigated some trapping violations he found. This young man was not checking his traps regularly and he failed to tag most of them. When he did have one tagged it was with the type of tags which use a paper insert. These tags are illegal because the law requires that only metal tags be used. Paper just isn't very durable outdoors.

January 6—While in Harrisburg to pick up evidence from the State Police Crime Lab, I stopped by the Game Commission office to tape some radio programs with several division chiefs and our deputy executive director. They expressed their own feelings about important subjects. I think this will help my local people realize that behind the marble walls in the capitol are real people with feelings, worries, and hopes about wildlife in Pennsylvania.

January 12—Accompanied by Jim Farr and Deputy Sheriff Dick Hastings, I conducted an angry young man before the district justice. This incident could have mushroomed into a serious matter. The prisoner was charged with taking an illegal



By Jack Weaver

District Game Protector

Tioga County

deer last hunting season. It was bad enough when he chose to ignore the citation sent by the justice, but then he involved his family in attempting to avoid arrest. They hid him in the house and said that he wasn't home. We suspected that he was home and when the deputy sheriff arrived with information that he was, he gave himself up. It was one of those emotionally charged situations which can erupt at any time.

January 13—It's good to balance a serious day with a lighter one, and working with kids is always pleasant. Today I presented an assembly program to the Blossburg and Covington Elementary Schools. Children really appreciate hearing about wildlife and can grasp more complex concepts than we sometimes give them credit for.

January 17—I spent most of the day prodding around some swamps conducting an annual beaver census. The number of active huts, size of the feedbed, and the size of tooth marks on peeled sticks are all indicative of the number of beavers living there.

January 18—Deputy Dave Darby and I presented a case in court concerning a fellow's failure to check on his traps every 36 hours. Dave kept accurate notes each day on the location, position, and condition of the man's traps. He also kept notes on the weather, a factor which proved crucial in this case. Armed with this information, Dave was able to prove beyond a doubt that this man was not present on his trap line for over 52 hours.

January 21—Some of my deputies took care of posting beaver colonies in Bloss Township while I posted some at the head of the Tioga River and on Fall Brook Creek. Judging from my census, these dams are in need of protection to ensure that the beavers are not overharvested.

January 27—DGP Keller and I attended a Fraternal Order of Police meeting in Mansfield tonight. Lynn and I are both

members of the FOP. This association helps to strengthen our relationship with local law enforcement agencies.

January 31—This afternoon I met with the station manager of WNBTV radio. Apparently our "Wildlife Perspectives" program is well received, for we discussed expanding it to include WFRM in Coudersport and WGCR, a 50,000-watt FM station in Mansfield. This will give the program much better coverage.

Rabbit Recipes

OLD WORLD RABBIT

As Brillat-Savarin remarked, the discovery of a new dish does more for the happiness of man than the finding of a star, and here perhaps is a way of preparing rabbit which you have not known before. Try it sometime with a 4- or 5-lb. oldster that is too tough for ordinary treatment.

Set the granddaddy on a rack in a kettle. Pour in a quart of boiling water. Add 2 tsp. seasoned salt. Bring to a bubble, lower the heat, and simmer until tender. Then cool in the broth.

While all this is going on, melt 2 tbs. margarine in a small heavy saucepan over low heat. Smoothly stir in 2 tbs. flour, mixed to a thin paste with a little water. Once these are well blended, blend in slowly a cup of whole milk. Continuing to stir, bring gradually to a bubble and simmer 2 minutes. Season to taste with salt and freshly ground black pepper, then with $\frac{1}{4}$ tsp. nutmeg. Combine this sauce with $\frac{1}{2}$ cup whipped cream or canned substitute, $\frac{1}{4}$ cup dry sherry, and 1 tsp. Worcestershire. Place to one side.

Cook a large bunch of broccoli, drain, and arrange in a casserole. Dust with part of a cup of grated Parmesan cheese. The rabbit should now be cool enough to handle.

Bone it, spreading the pieces over the broccoli. Tilt and scrape the sauce over everything. Sprinkle on the rest of the

cheese. Place 5 inches below the broiler and cook until bronzed and bubbly. The results will shine in your memory like a patch of old-world stained glass with the sun behind it.

SOUTHERN RABBIT

Here is a dish that will bring brightness to the table on a cool damp evening when snow threatening, the moonlight is murky and indistinct under velvet clouds. Start by frying 2 slices of bacon until crisp, starting with a cold frypan. Crumble the crisp pieces. Add $\frac{1}{2}$ cup apiece of diced green pepper and diced onion, plus a finely sliced clove of garlic, and sauté slowly over low heat, stirring and turning frequently so that the onions do not burn.

Stir in $\frac{3}{4}$ cup apiece of diced cooked rabbit and diced cooked ham with the fat removed. Sauté a dozen minutes more.

Put in a cup of canned or freshly cooked tomato, $1\frac{1}{4}$ cups of chicken bouillon, $\frac{1}{2}$ cup of washed raw rice, $\frac{1}{2}$ tsp. seasoned salt, $\frac{1}{4}$ tsp. thyme, $\frac{1}{8}$ tsp. cayenne pepper and a bay leaf. Stir and cook a minute. Correct the salt and pepper if necessary.

Spoon and pour into a large casserole, well greased with margarine. Bake in a preheated moderate 350° oven an hour until the rice is fluffy and most of the liquid is absorbed. Serve with hot, buttered sourdough toast.

—Bradford Angier

Also In Backyards

Lizards are the most widely-distributed reptiles: They live north of the Arctic Circle in Europe, at the southern tip of South America, 200 feet below sea-level in Death Valley and as high as 18,000 feet up in the Himalaya Mountains of Nepal.



CENTRE COUNTY 4-H RIFLE TEAM MEMBERS Tom Homan, Craig Campbell, Bruce Harpster and Lowell Johnson scored a 794/900.

4-H Rifle Competition

By John C. Behel

PGC Hunter Education Coordinator

THE 1977 4-H Rifle Competition marked the tenth year for this program. Such shooting has attracted increased numbers of competitors over the years, and even more importantly, the shooters have shown improved performance each year. This is a tribute to the county staff, 4-H leaders, and the 4-H shooters. The 1977 competition included 24 county teams with 93 shooters.

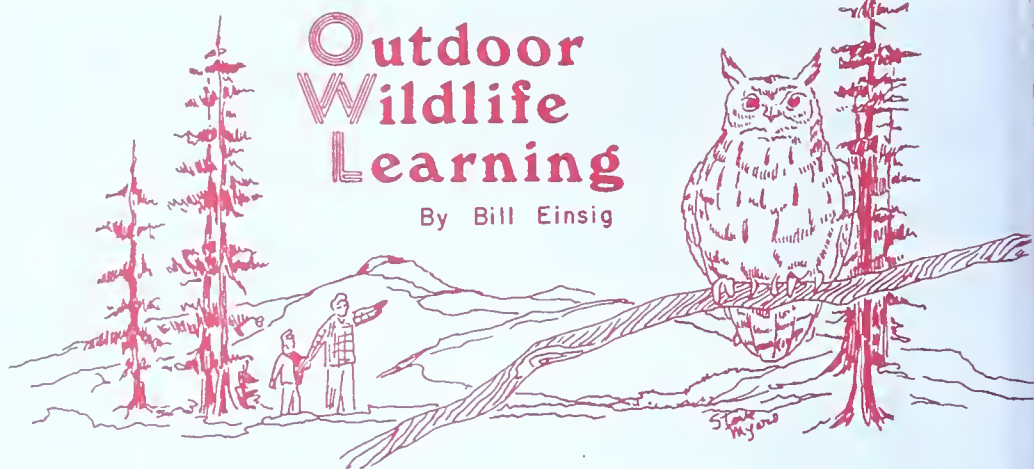
These scores were fired on NRA official 50-foot small bore rifle targets. The course of fire included 10 shots fired from each of three positions: standing, prone, and choice of kneeling or sitting. Teams were made up of

three or four shooters. When a team of four entered, the low score was dropped to determine the team score.

In 1977, a special awards program was initiated for the competition by Federal Cartridge Corp. Each shooter received a 4-H Shooting Sports and a Mallard patch for competing. Gold, silver, and bronze medals were awarded to each member of the first three teams. The top three shooters received special trophies. These awards add a new dimension to the 4-H Rifle Competition and they will stimulate continued interest and improvement.

Centre County 4-H Rifle Team topped the competition among 24 county teams that shot at the Recreation Hall Range at Penn State in August, 1977. The team members are Tom Homan, Craig Campbell, Bruce Harpster and Lowell Johnson. Ernie Harpster is the 4-H leader for the rifle club. The team score was 794 out of a possible 900. Lowell Johnson was high individual with 275.





Most of us who read GAME NEWS care about wildlife. We understand that wildlife has many values—aesthetic, economic and recreational, among others. We know that wildlife populations compose an integral part of the natural world and that poor management—for political or emotional reasons—only leads to the degradation of the natural environment as a whole.

But few of us are qualified wildlife managers. Few of us have the specialized training in population dynamics, animal behavior and statistics that a wildlife biologist requires. This training permits the wildlife manager to look objectively at populations of wild species and recommend action that will benefit the population in question.

Our individual views are often very narrow and limited to our own experience. That's to be expected. But the game biologist has to be concerned with many factors and interrelationships that we fail to consider. He must balance biological data with social and economic factors. He must consider the many aspects of a particular problem and then decide upon the best—not perfect perhaps—but *best* of the options available.

Most Pennsylvania hunters should understand this situation well. And yet, it seems that an even deeper understanding of wildlife management—its rationale and its techniques—would improve cooperation within the hunting community and with those who take exception to sport hunting.

There is a course on wildlife management available through the College of Agriculture, Penn State University. Entitled *Wildlife Resources and the Natural Environment*, the program is offered as a correspondence course. Essentially, you receive a book of readings and tests which you complete at your own pace and return to Penn State. The course is not offered for credit.

Twelve lessons cover some fundamentals such as communities, population dynamics and interactions between wildlife and man. Specific applications include techniques used for forest game management, farm game management, wetland management and more. There is nothing technical or difficult. In fact, the course would be an excellent supplement to high school programs.

In all probability, the biology staff at your local high school would be happy to hear about the course and may be willing to see that some students get the needed information. Even in city schools there are usually a number of students interested in a career in forestry or wildlife management. This correspondence course would be right down their alley.

On the other hand, most of us hunters could use a little more understanding of what a game biologist has to work with and why we have the regulations we now have. Your club would be wise to get a copy of two and pass them around. And if you have a friend who is anti-hunting, slip him a copy to read. If he really thinks about what he's reading he'll have to re-evaluate his opinions about hunting as a valuable management tool.

For more information, contact:

Correspondence Courses

The Pennsylvania State University

307 Agricultural Administration Building

University Park, PA 16802

Take A Peek At PEEC!

The Pocono Environmental Education Center (PEEC) is located north of Stroudsburg within the Delaware Water Gap Recreation Area. Operated by Keystone Junior College in cooperation with the National Park Service, PEEC offers

de variety of activities for day use and
oup camping. The competent and en-
usiastic staff has developed programs in
ecology, nature studies, hiking, canoeing
and crafts.

Actually, the center is a converted
honeymoon lodge complete with a sunken
bath and stone fireplace in each cottage.
Seats are everywhere—from the ballroom
floor (now a group meeting area) to small
porcelain couplets on the concrete steps to
the lodge. Anyway, a different kind of
education is taking place there today.

If you're looking for a place to organize a
trek, outing, meeting or camping
experience for your group, this is a tremen-
ous site. The staff will structure a
rogram to fit your specific needs or simply
provide facilities for you to do your own
thing.

In addition to the surrounding forest,
there are several ponds for study, flowing
water, beautiful gorges and open field
areas. There's even a camp bear—
cubifer—that makes his rounds from time
to time!

Couple all this with loads of good food
and prices any budget can handle and
you'll want to make your visit a regular item
in your itinerary. But hurry—many groups
have been enjoying the center for years
now and their reservations are in early.

For more information contact Jack
Madalino, Pocono Environmental Educa-
tion Center, RD 1, Box 268, Dingman's
Ferry, PA 18328.

PAEE On The Move!

The Pennsylvania Alliance for Environ-
mental Education took shape legally as a
non-profit organization during a recent
weekend conference at Schuylkill Valley
Nature Center in Philadelphia. During
coming months the Alliance will initiate a

The Game Law Violator Is Stealing From You

number of programs designed to enhance
and promote environmental education pro-
grams across the Commonwealth. A pe-
riodic newsletter will keep members in-
formed of environmental happenings and
important legislative actions. The organi-
zation is expected to gain widespread sup-
port from the general public, industry and
organized groups who recognize the need
for a better understanding of our environ-
ment and the complex pressures upon it.

You should be a member, too! For more
information contact PAEE, Lou Ritrovato,
President, 130 Woodbine Drive, Hershey,
PA 17033.

EE And Scouting

The Boy Scouts of America offer a merit
badge booklet in Environmental Science
that can be used by other groups and
schools as well. The booklet covers the
fundamentals of ecology and ecosystems,
leads the scout (student) through a series
of field studies, deals generally with types
of pollution and other environmental prob-
lems and even includes a section on envi-
ronmental careers.

Use the booklet for club, classes, or any
group program. Also, your local school and
public libraries should have a number of
copies on hand. Look for them at your local
scouting supplies dealer.

Some Good In Everything

Amphibian secretions and snake venoms are being studied for their potential
anesthetic and therapeutic value to humans.

Don't Kiss A Frog

For centuries, the Chocó Indians of western Colombia have used toxins from
the skins of certain frogs to make poison for their blowgun darts.



IT'S STILL snowing. I can see it in the air, light on the garage. The flakes are falling straight down, with not a breath of wind to disturb them.

I was out in it an hour ago. I'd intended only to fetch a few logs from the woodpile, but the spirit of the storm worked into my body like the flakes powdering down my collar. I came back in, got my hat and parka, and went out again.

Behind the cottage, the barn foundation loomed up white-capped: castle walls. On the knoll I could just make out the beehives: gravestones. In back, the pheasant cover looked graded into steppes: China. A diffuse light drifted with the snow; it seemed as if the flakes captured all light—from house windows, milking sheds, barns, headlights of travelers caught in the storm, porch lights left on for them—captured it and broke it down to basic components, divided the components evenly, and carried them back to the earth.

I walked along the lane. In the fencerow the snow was capping rocks and posts, smoothing out blackberry, hawberry, haw. Flakes rattled against dead leaves still clinging to a dogwood. On my left, a hayfield swept uncrinkled to the next fencerow. Snow fell steadily, with a cumulative hush of millions of flakes.

My boot broke through a rut and stained the snow black with mud.

Stopping, I looked to the pheasant cover. The cocks and hens would be hunched in the heart of a briar tangle, or maybe in that thick, unranked patch of pines. I didn't imagine them sleeping, but rather mesmerized by the constant whisper of snow drifting down through cover. The roosters would be clustered together, unbothered in this season by the instincts to fight, guard territory, or collect harems. Their plumage would be fluffed up for maximum insulation, and in the gray light it would look dull as old coin.

In good cover, pheasants withstand harsh weather; in bad or no cover, they are poorly. One winter near Ellendale, South Dakota, a storm whipped out of nowhere to kill pheasants by the truckload; on one farm, a wildlife biologist found over 200 dead birds in fields and

Thornapples



Chuck Fergus

under spindly hardwoods. If an exposed pheasant faces into the wind, it can suffocate when snow collects in its nostrils and forces its way (sometimes with enough force to split the corners of the mouth) into a compact mass in its throat. If the bird faces away, on the other hand, snow knives under its plumage, is melted by body heat, and refreezes. This mats down feathers and destroys their insulating properties, and the bird freezes in the howling wind.

Grouse are better equipped than pheasants to cope with snow. As days shorten toward winter, scales on the edges of a grouse's toes begin to lengthen, becoming a fringe that nearly doubles the surface area of each foot: snowshoes.

If snow covers berries and mast, grouse can flap into trees—aspen, cherry, apple, or birch—and feast on buds till the cows come home. Some nights they sleep beneath the snow, flying directly into powder at dusk or sitting at the base of a tree and letting snowfall cover them. Newly fallen snow is porous, full of minute air pockets which keep body heat from radiating away.

I squatted, balancing on my hams; snow immediately began to collect on my knees. I squinted toward Tussey Mountain, bulky and gray to the south. On its wooded sides the deer and squirrels would be settling in against the storm.

Deer are rugged enough when there's adequate food to fire their internal furnaces. But when deep snow forces them to yard up—group together within a small, restricted area—they may use up all their food, and starve. Fresh browse can be within a quarter-mile, but for some reason they won't break trail to get to it.

Squirrels, on the other hand, horde against hard times. A red squirrel wedges nuts in tree crotches or fills hollow logs with pine seeds. Grays bury acorns and hickory nuts under the leaves; later they sniff out these caches, even through a foot of snow. If the weather turns ugly, they retire to their dens and sleep for several days.

The snow hissed on my hat brim and brushed my cheek. In my mind I had the animals sheltering well, so I turned and walked back to the cottage.

On the porch I knocked my hat against my knee and hung the parka. Inside, the fire had burned down. I added split sticks and a chunk of pitch pine cut down in the Seven Mountains. The fire leaped, the pine sap bubbling, spitting, flaming blue.

I sat down with a book, but the words wouldn't hold: they kept slipping past my consciousness like so many snowflakes whisked into the storm. Something was in the air. I realized I hadn't heard traffic on the highway since I'd started back the lane. And that all evening I'd deliberately avoided turning on the radio. (What would the weather report be? "Six to ten inches, with the snow expected to taper off by morning"? Or twelve to sixteen? Or more?)

Quiet Glee

It was apparent, now, what I was up to: I wanted to be snowed in good and proper. When I was younger, one thing always filled me with quiet, brimming glee, and that was waking in the night, sensing that even, midnight light, and pulling the curtain back to see snow. Not just a dusting, but a thick cap on the picnic table and back stoop, a branch-bending load in the hemlocks. And I'd always hope for a wind by dawn, a mean, whipping wind to drift the roads and stymie the schoolbuses.

I got up, leaned close to the window,



and cupped my hands around my eye. The snow was still coming down straight down, seemingly intent on burying as much as it could before the clouds ran dry.

Would we be snowed in? I allowed the little boy in me the luxury of checking the cupboard: cans of peaches, tuna fish, baked beans. I brewed a cup of tea, laced it with honey, sat and listened to the fire.

What if the power went off? I had a candle lantern in my backpack somewhere in the attic, and a kerosene lamp stood on the mantle. There was the fire to warm the cottage, and a down comforter for the bed. I could hold out for days.

It would be fine to be snowed in.

Unfortunately, I thought, it was much more likely that the snow would blow itself out in the night. It might spit and snarl, but in the end the gray light would give way to a blue, icy dawn. The roof timbers would be popping, and if a wind came up I'd cut off the draft from the upper story by tacking a blanket to the lintel.

Then, I reasoned, I could get some work done. I could bring the typewriter downstairs by the fire, be filled with the zeal to write, and knock out some really good stuff. Which I'd been doing too little of lately, what with the season still open for squirrels, rabbits, and grouse.

I glanced at the little Ithaca leaning in the corner. It is always much, much easier to go hunting than it is to sit

own and write, even though writing is our livelihood and the rules say "Write every day!" and deadlines hang like swords above your head. Somehow, rules seem to be suspended when you're snowed in.

I thought of how fine it would be to drop down into Bald Eagle Valley and try to kick a covey of grouse out of the snow. I closed my eyes and saw explosions of white, frantic flight, my gun up and swinging on a vanishing brown blur. I got that bird, then picked up another on a long passing shot. (Doubles are frequent in my daydreams.)

But getting into good grouse cover could require driving, and the situation I was trying to conjure wouldn't permit such mobility. No, much better to pull on felts and arctics, a wool shirt and gun vest, a stocking cap to protect the ears, and then to walk out back to the pheasant cover. I couldn't hunt pheasants, but rabbits were OK. I'd be all alone, the sky deep blue and the snow dazzling. If it wasn't too windy, rabbits would be in the blackberry patch, borne up by the new snow to where they could reach fresh, un-nawed canes. And if I happened to pick out a ringneck, I'd raise the gun and track him on the rib—yell "pop," or "pow," or "gotcha," and let him acknowledge and then cuss as the cold air got under his feathers.

After a while, I might just hike. The fields would look like slick white patchwork sewn together with fencerows. With luck, I could pick up on a fox track and see where the animal hunted, and find food.

The fire cracked, jerking me back to

the present. I looked out the window. Snow was heaped on the garage, the mailbox, the neighbor's porch roof. The flakes still dropped straight down. I watched one in the arc light as it completed the last twelve feet of its journey and vanished. I watched another, and a third.

A snow crystal is conceived in a cloud; it begins as a microscopic germ of ice frozen around a dust speck, altogether about eight-thousandths of an inch in diameter. For fifteen minutes or half an hour, the crystal floats and tumbles in the belly of the cloud, growing into a six-rayed star, a hexagonal plate, a column, a bullet, a needle, or a lump. It may be elegant and symmetrical, or plain and irregular. A plate may sprout wings, spokes, branches, twigs, arms, rays, plumes. In the violence of the storm it may bump against other flakes, becoming tattered but still growing—perhaps even picking up on one of its arms a tiny germ-crystal of similar form.

When it gets too heavy, it falls to earth.

It may fall, softly, on a wave in the sea. Or on the wing of a bird, the face of a child, a withered leaf. It may come to rest under the harsh cone of a garage light in the heart of rural Pennsylvania.

The window glass was cold, and the snow was falling on and on. I pulled away and crouched before the fire. The glow felt good on my face and hands, and it lit the room red.

I picked up the poker and prodded the logs. A shower of sparks—glowing, living, burning—chased up the chimney and into the storm. . . .

The Old Guys

The tuatara is the sole living representative of a once widespread group of "beakheaded" reptiles. Full-grown tuataras have been known to live over 75 years, making them among the longest-lived animals in the world.

Price of Beauty

Extensive use of reptile skins for purses, shoes and other leather products has led to massive slaughter, endangering many species such as the crocodilians.

JOAD

By Keith C. Schuyler

Photos from the Author



KIDS COME IN ALL sizes and shapes, but their interest in competitive archery is always intense, as shown in this photo taken on the shooting line.

AT EVERY important shoot in the National Archery Assoc., there is a particularly important group for whom special shooting provisions are made. JOAD or Junior Olympic Archery Development program, is a small but important part of NAA activities.

For example, photographs shown here were taken at the 8th Indoor National held in Harrisburg last April. Headlines for that one proclaimed the close contest between winner Dick McKinney and Darrell Pace, Olympic titlist, and Olympic champion Luan Ryon's easy attainment to the top national spot. But over at one end of the shooting line was a group of 13 youngsters that might well have held the future Olympic champion. It is a matter of record that the winning United States archery team at the Olympics in Munich, Germany, and Montreal, Canada, contained former JOAD participants.

Junior Olympic Archery Development program is an outgrowth of a number of efforts to come up with a definitive youth program in the National Archery Assoc. Much of the credit goes to George Helwig, Ohio, who has nurtured the program from its inception and continues to serve as program director. George is a former president of NAA.

Behind the more visible aspects of this youth activity is a firm program available to any archery club affiliated with NAA. Basic literature and training movies are a part of the material provided to help get a youth group started anywhere in the country.

Although the early programs did not work out to the complete satisfaction of those involved, they did provide a sound basis for the current program which is proving quite successful. It is necessary that responsible adult super-

sion be available for all club shooting, but it is not necessary that this adult be an expert archer. If the program is followed as presented, all youngsters could be able to develop to their full potentials.

In fact, the program itself places emphasis upon development of shooting skills in the youngest interested participant. Each junior archer can progress at his own pace by moving to the next longer distance, so that there is encouragement to compete against one's own previous scores and abilities.

There are actually eight qualification rounds for both outdoors and indoors. Only the first, Yeoman, may be omitted for the older age group. This one starts at a distance of 15 meters and requires a score of 115 in the outside round on a 22-cm diameter face. All distances and targets are based on the metric system of measurement.

After Yeoman, the next seven classes advance at the rate of five meters from Junior Bowman to Junior Archer, and from that point on the distances increase at the rate of 10 meters for each class. Achievements which follow the class, distance, and required score for attainment: Yeoman, 15 meters, 115; Junior Bowman, 20 meters, 115; Junior Archer, 25 meters, 150; Bowman, 30 meters, 190; Archer, 40 meters, 200; Master Archer, 50 meters, 200; Expert Archer, 60 meters, 200; Olympian, 70 meters, 225. It is significant that the highest class is the Olympian. The implication always is that the ultimate attainment for any of these young people is the opportunity to represent the United States at the Olympics.

For the indoor qualifications, 30 arrows again are shot, all at 18 meters. An 80-cm diameter face is used for the first four classes, going to 60 cm for the Archer and Master Archer and 40 cm for Expert and Olympian. Required



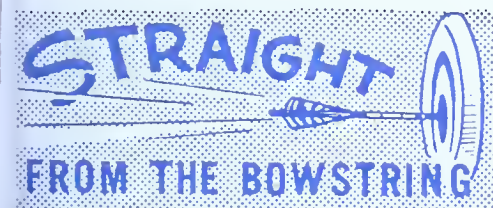
GEORGE HELWIG, who has been involved in the JOAD program since its inception, gets assistance from dedicated helpers in making the important awards.

scores are based on the smaller faces used inside and require 70 for Yeoman and Junior Bowman, 124 for Junior Archer, 200 for Bowman and Archer, 250 for Master Archer and Expert Archer, and 280 for Olympian.

It is interesting to note that 18 meters is the distance used with a 40-cm face in the International (FITA) round for the closer distance. Consequently, when a youngster reaches the Olympian classification, it is an easy step to the Cadet, Junior and Intermediate program.

Although the previous activity is on a local basis to develop young archers, they may also compete in the official Junior Olympic Archery Development Tournaments, such as the one at Harrisburg, which are held concurrently with the adult National Indoor Tournament.

For this purpose, the young people are divided into three age groups. Cadets are less than 12 years of age, juniors are 12 to 15, and intermediates 15 to 18. No organization is permitted to hold a Junior Olympic Archery





WHILE OTHER winners look on, above, Tommy Stevenson receives top intermediate award for boys. Right, Judy Stundon relaxes for a moment during the intense contest.



Development tournament without first receiving written sanction from the NAA. If the sanctioned tournament is below the state level, the contestants need not be members of a Junior Olympic Archery Development club, and participation by local and area archers is encouraged. However, to participate in any sanctioned NAA JOAD tournament held on a national, regional or state level, all participants must be members in good standing of a sanctioned NAA JOAD club prior to tournament time.

Since the qualification rounds as first described here are for personal development, they do not enter into group competition such as that held as a part of the NAA National Tournament at Harrisburg, where the young people participated in the Eastern Junior Olympic Championship. At this one the young people shot the same FITA rounds as their adult counterparts. This consisted of FITA I, 60 arrows at 18 meters on a 40-cm target face, and FITA II, 60 arrows at 25 meters on a 60-cm face. The only real difference in such shoots is that Intermediates, Juniors and Cadets shoot in the freestyle class only.

The first requirement of a junior archery club is a safe place to shoot

outdoors. An area must be provided that is at least 60 yards long by 20 yards wide, with an additional five yards in width for each extra target. An overshoot area of at least 60 feet behind the target is essential. Inside, a range 70 feet long with enough width to accommodate targets is considered adequate. Targets may be spaced immediately side by side. There must be provision for latching any doors or windows in the shooting area from the inside during shooting and a net of $\frac{1}{8}$ inch mesh or a drop cloth of heavy material should be behind the targets to hold missed arrows.

One of the primary purposes of the JOAD program is to develop in young people the sense of courtesy and safety that has been traditional in archery over the centuries. This writer has attended most of the JOAD shoots in Harrisburg and can attest to the excellent behavior of the young people. Many of those on the adult shooting line have moved up from JOAD.

Young shooters present somewhat of a problem at all archery clubs. It is not a lack of desire to give the youngsters an opportunity to shoot, but rather the difficulty of providing a program which fits their abilities and tackle. If the kids get on the field course, they are apt to hold



THESE ARE THE TOP JOAD SHOOTERS in the East for 1977. They have just received their awards at Harrisburg.

to adult shooters by looking for lost arrows because the distances are too great for their tackle. Consequently, that should be an important part of any club program too often develops into an irritation.

As the youngsters get older, they frequently move to the adult targets as their abilities improve. Some of the best target archers in the state have been younger than the top age limit provided in the JOAD program! But unless these young people have an opportunity to develop their abilities, too often they become discouraged or friction develops which eliminates their presence at regular shoots.

The alternative could easily be a JOAD program. Most archery clubs in the state are affiliated with the National Archery Association, and they are therefore eligible to set up such a program.

Attention is frequently given to the need to have some sort of recreation for the very small children, such as swings, pumper-totters, etc. It is the group of youngsters above this level up to 18 years of age who are frequently left out in the cold. It is only natural for kids to want to emulate their parents, and tak-

ing care of their need is a sure-fire way to guarantee that the local club will have plenty of members in the future. All it takes is one adult willing to provide time to work with these young shooters. Shooting times can easily be coordinated with regular shoots at the local club. Furthermore, when clubs move around the conference, it will be much more practical to take the kids along, knowing they will have something interesting in which they can participate.

Place to Start

Logically, the place to start such a program is at the conference table. If all or most of the clubs within a conference are willing to set up a JOAD program, parents can then be assured there will be an activity for their children if they take them along to the conference shoots. The beauty of the entire setup is that there is something for youngsters at all ages. They can start at the very lowest Yeoman class and work their way up through Olympian. At this time, or possibly before, they will be ready to stand on the adult shooting line and compete as Cadets, Juniors or Intermediates (or even in adult classes).

The way to get started is to have the club secretary write directly to George Helwig, 69 E. Galbraith Rd., Cincinnati, OH 45216. George will provide the necessary information including a booklet, Junior Olympic Archery Development Program, which outlines requirements.

Of course, achievement must be recognized. A group of medals is available at low cost for the kids. An initial award is a medal with attachment for a stepladder series of bars designating each advancement. In addition, certifi-

cates from the National Archery Ass can also be awarded for each advancement.

No longer will it be necessary worry about what to do with youngsters if you plan to go to a local conference, regional, state, or national shoot, because there is something everybody in archery. Following is a list of the better scores from the National Indoor Tournament held at Harrisburg in 1977 for Cadet, Junior and Intermediate boys and girls in the JOAD program.

Cadets—Boys			
	FITA I	FITA II	Total
Mike McDonald	448	392	840
Glenn Kryszak	245	277	522
Cadets—Girls			
Becky Liggett	507	501	1008
Tammy Bergum	432	376	808
Rhonda Liggett	348	246	594
Kathy Kaufhold	244	273	517
Jodi Ann Bloom	176	190	366
Junior—Boys			
Gary Hagler	546	548	1094
Scott Kiehl	552	525	1077
Brian Bergum	522	519	1041
Denton Clark III	503	514	1017
David Curliss	491	509	1000
Gary Widner	485	491	976
Thomas Cherian	459	494	953
Lonny G. King	491	454	945
Thomas Wilson	450	471	921
Bruce Kryszak	424	475	899
Junior—Girls			
Paula McNerny	507	511	1018
Roxann Oswald	409	396	805
Sue Storm	282	396	678
Kristina Mullins	325	349	674
Intermediate—Boys			
Thomas Stevenson Jr.	560	556	1116
Robert K. Stundon	549	552	1101
Tim Weaver	552	533	1085
A. Robert Kaufhold	531	552	1083
Jeff Shannon	541	541	1082
Mark Shuttleworth	528	552	1080
Anthony Murawski Jr.	543	531	1074
Bob Harley	532	539	1071
Ronald Bergum	528	540	1068
Brian McGuirl	546	514	1060
Intermediate—Girls			
Joanna Bednar	511	518	1029
Roberta Oswald	451	492	943
Karen Oswald	461	459	920
Jean Delaney	441	453	894
Kathy Granny	475	413	888
Paula McKinney	423	463	886
Jeannine Oswald	399	380	785
Elise Huntley	333	387	720



By Don Lewis

Photos by Helen Lewis

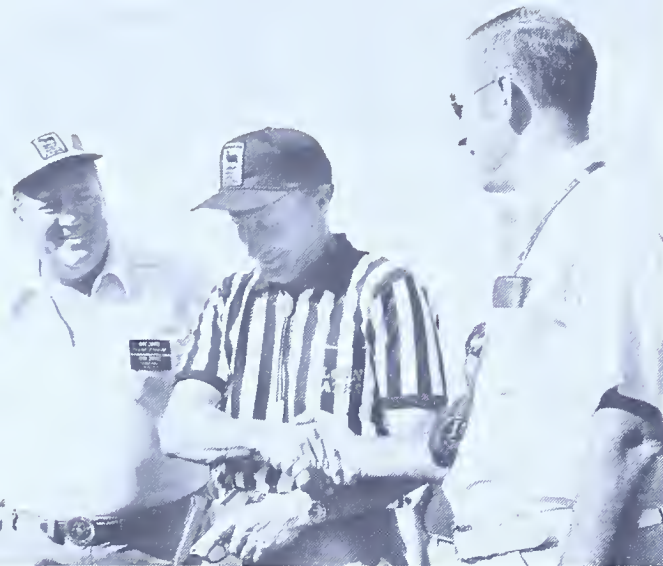
THE UNRELENTING heat of the afternoon sun held the temperature in the low 90s as Jim Wyant, of Kittanning, stretched out in the prone position and studied the five ram silhouette targets 200 yards in the distance. Jim gripped his Ruger Super Blackhawk 44 Magnum in both hands and took several practice aims as his coaching wife, Judy, checked the occasional gentle breeze that brought momentary relief to the four shooters on the line. After a moment's discussion with her, Jim nodded he was ready. Seconds later he squeezed off the first shot. For a split second, it looked like a miss. Then the heavy steel ram toppled over.

Jim's second and third shots brought similar results, and tension mounted when his fourth shot sent a ram backwards. A hush fell over the spectators as Jim cocked the Ruger and held it motionless for ten seconds before the afternoon air was shattered by the big bang. The clang of lead against steel an-

nounced a hit. The ram seemed to hang motionless before it finally fell to the ground. The response from the crowd was one of relief and jubilation at the skill Jim displayed with the Super Blackhawk over the long distance.

I had been hearing rumors about how silhouette shooting was pumping new life into the shooting fraternity, and the heaviest clamor was coming from the handgunners. My schedule hadn't permitted me to take in a silhouette shoot, but when Bob Nichol, president of the North Buffalo Sportsmen Club near Kittanning, invited me to watch what he called the fastest growing sport in the shooting realm, I decided to see what all the uproar was about.

I'm not certain if there are absolute rules on distances and target sizes, but at North Buffalo the four targets are cut from $\frac{3}{8}$ " steel plate. Chicken silhouettes are roughly 6x10-inch body size and are fired at from 50 yards with a one-hand hold, standing position. The



BOB ZWIRZ of "Gun World Magazine" and **Elgin Gates**, renowned trophy hunter and publisher of "Silhouette," present **Bill Roberts** with a 357 Merri!! following his first place win at Camp Curtis Guild.

pigs measure 10x20 inches and are shot at the 100-yard range with either a one- or two-hand hold from the standing position. Turkeys, 13x16-inch body size, 150 yards away, and any position or hold is allowed. The largest target is the ram, which runs around 14x32 inches and is shot at from 200 yards. Again, any position or hold is permitted.

North Buffalo has some other rigid rules. No optical sights or artificial rests are permitted, and all firing must be from left to right with just one shot at each target. Strange as it may seem, ricochets count if a knockdown occurs, as it is felt this would make a kill on live targets. I can understand that, for I've collected several squirrels and chucks that were killed with ricochets. Hitting a target out of sequence counts as two misses. If a competitor is aiming at Number 3 chicken but jerks and knocks down Number 4, he is scored for two misses. Number 3 is still standing and Number 4 is not there to shoot at.

The other three shooters on the line



with Jim Wyant were Ed Slovensky, Jack Cramer, and handgun writer Bill Roberts. Wyant's impressive shoot at the rams didn't up his overall score enough to be top man, but his total out of a possible 20 isn't to be taken lightly. To show how tough handgun silhouette shooting is, Slovensky won this match with a score of 10, Roberts came in second with 9, Cramer third with 8. Roberts holds the club record with a 15.

Wyant explained that handgunning at such distances requires not only a steady hold, but also a complete understanding of the sight picture for each range. Jim doesn't adjust his sights at each distance. He holds six inches under the chickens at 50 yards, and the top center of the ram's back at 200. Most chuck hunters know the problem of trying to hold high or low. Jim thinks in time loads will be developed to allow a dead-on hold at each range.

Coaching Permitted

The rules do permit a coach behind each shooter, and a spotting scope also is permitted. The coach can give advice and offer suggestions but isn't allowed to touch or aid the shooter physically. Bill Roberts claims the coach can make times follow the silver streak of the bullet through the spotting scope. In fact, Bill gives a lot of credit to Paul Wyant, who coached Bill when he won the Unclassified Event in the Eastern Regionals of the International Handgun Metallic Silhouette Association (IHMSA) at Camp Curtis Guild near Boston in 1977. Bill says his score of 39 out of 40 was a good bit due to Paul's efforts.

Knocking over the silhouette metallic target is not all that easy. At North Buffalo, the rams weigh approximately 40 pounds. Although the targets are set level, it still requires a good bit of energy to knock them over. To get some idea of how much pull-over weight was needed, a trigger scale showed chickens required around two pounds, pigs and turkeys around three pounds, and the ram needed five. That means there are numerous times when much to the frustration of the competitor the clanging sound of a bullet hitting

ing metal is the only reward. The hit isn't solid enough to dump the target, and only knockovers count.

Since I'm always interested in making a better mousetrap, I could see how silhouette shooting could catch on with sportsmen's club. It doesn't require a great amount of money to build the targets, and most any type of 200-yard range could be used. In fact, distances can be varied somewhat to meet the physical needs of a club. A nominal charge for each entry would meet the club's expenses and keep the price within reach of all shooters. The only major expense would be the purchase of a handgun suitable for the long distances.

At the moment, the 44 Magnum seems to be the favorite, although some 357s are used. I think the IHMSA is trying to keep competition on equal levels with two classes of firearms—production, a gun sold over the counter to the public; it cannot have any modifications except the use of grips that are not readily available to all shooters, and the Unlimited, which is not a production type firearm; this type may not have more than a 15-inch sight radius or weigh more than 4½ pounds loaded.

I won't get involved with what handgun is best or what load to use. I

think the shooter will soon find that out. As a starter, it may be best to stick with something along the line of the 41 Magnum or above, as the experienced shooters I've talked with feel the 357 is a little on the light side.

The 44 Mag may reign supreme at the moment, but I learned that not all shooting with it is done with full power loads. For chickens, pigs, and turkeys, the loads are designed more for accuracy than power. Going out to the 200-yard range for rams is a different story. Loads are pretty much an individual choice, but one stiff load being used for the ram targets is 17½ grains of 2400 behind a 265-gr. 44 Hornady. It leaves the muzzle close to 1100 feet per second. Jim Wyant sticks with 20 grains of 2400 and a 250-gr. cast slug that is a bit faster. His mixture for casting is ⅓ wheelweights, ⅓ linotype metal, and ⅓ pure lead.

With all the talk of big guns and power for distance, it sounds as if silhouette shooting is strictly a man's game. Not so. Jim Wyant's wife, Judy, uses a Smith & Wesson 357 Magnum with 14½ grains of 2400 and 160-gr. Lee cast semi-wadcutter. It must be a good load. Judy showed a whole pack of male shooters at Johnsonburg how effectively she could handle the 357 when she walked off with first place in

ARNARD NOVAK of Indiana on the 50-yard "chicken" range. Note that he uses a one-handed shot at this distance.





TOM SCHALL, left, range officer for the shoot, and Jim Wyant discuss the problems of silhouette handgunning with Don Lewis.

the Class B shoot that was open to all comers. I understand this event was fired on a shorter course, but everyone had the same chance.

My mail indicates there's a growing interest in all types of handgunning, and this is especially true in the hunting realm. Each year, more and more handgun buffs match their skills against the wily whitetail deer. My writing buddy Bill Roberts has been preaching handgunning to me for years, and during that time I've watched him do some impressive stuff with the sidearm. In fact, at reasonable ranges, Bill is just as effective with the handgun as most hunters would be with the rifle. Notice that I said "at reasonable ranges."

Both Roberts and I agree there is already too much talk of the day in the near future when the handgunner will be dropping whitetails, antelope, and small bear at and beyond the 200-yard mark. I don't think this will be the case, at least with the conventional factory-made outfit. I know there are custom handguns that actually handle a rifle cartridge or a modified form of it. This is not the type of handgun I'm talking about. Distance should not be set up in the hunting category as a goal to be achieved.

My archery writing colleague, Keith

Schuyler, has told me that many archers feel they are capable of making 30- to 40-yard shots, but Keith claims under 20 yards should be maximum for even seasoned archers. When a handgunner starts talking of making 200-yard shots with a regular handgun, it's time for him to switch to the rifle. First and foremost, it's not ballistically feasible for the handgun to deliver enough knockdown power to handle big game when distances stretch beyond the 100-yard mark.

I've written many times that a big game cartridge should produce no less than 1300 foot pounds of energy at 100 yards. There is no set rule on this, but it's a reasonable guideline to follow. According to the No. 9 Speer reloading manual, a 240-gr. soft point from the 44 Magnum is capable of producing 1330 fps velocity and 946 foot pounds of energy at the muzzle. The current edition of *Shooter's Bible* shows a 240-gr. slug leaving the muzzle at 1350 fps producing 971 pounds of energy. But at 100 yards, velocity drops to 1069 and energy skids to 608 foot pounds. Pushing this bullet another 100 yards would take it out of the big game category in a hurry, as far as I'm concerned.

My observations on long distance shooting with the handgun will surely

ing a good bit of wrath down on me, because I'm aware several handgunners are leading their followers in that direction. I'm certainly not against handguns for big game, but I believe in being realistic, and I base my philosophy on ballistic facts that indicate the factory produced handgun does not have sufficient velocity or kinetic energy to be classed as a long range fit. I feel the outfit used should be able to make a clean kill from any angle at the distance I'm shooting.

By no means am I putting down silhouette shooting. In fact, I see it as a boon to the entire spectrum of handgunning, and it could be the sole factor starting a major upswing in putting more shooters on the range. It could easily do for the handgun what trap and net have done for the shotgun. There's enough proof already to show silhouette shooting has had a genuine impact. Target shooting has a lot of followers, but silhouette shooting has more action, not only for the competitors but also for the spectators as well. Normally, only those with some means of optical magnification know what's going on at a target shoot, but the whole crowd can follow all the shooters at a silhouette match.

Mexicans First

Apparently the Mexicans were the first to cut silhouettes of *gallo* (chicken), *chelinina* (pig), *guajalote* (turkey), and *carrego* (ram) from metal to use in place of live targets. (Live pigeon shoots are still held in several nations, and live turkey shoots took place in our country as late as the 1900s.) It was only a matter of time until this new rifle sport crossed the border. In some respects, silhouette shooting is tougher with the rifle than the handgun. Standing position only with no slings, shooting without brackets, or rests. The closest target is 50 meters going out to the rams at 500 meters. Even the thought of that type of offhand shooting makes me nervous. Stepping beyond the excitement and personal rewards offered by silhouette handgun shooting, I can see where the average handgunner could become far more proficient. It's bound to make any shooter a better long range shot, even



JUDY WYANT and the S&W 357 Magnum she used for a win at Johnsonburg.

though I'm unalterably opposed to even suggesting the hunter with a handgun should take shots at big game much beyond 75 yards. Those of you who have followed this column over the years know I advocate bullet placement, whether it's on squirrel or white-tail deer. The hunter should know the limitations of his firearm and his shooting ability.

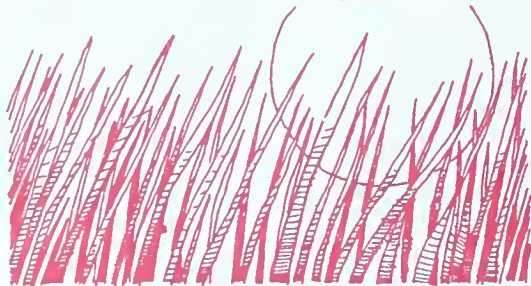
I want to see all the praises being sung about handgun silhouette shooting come to fruition. There's a real future for the metallic target shooter if he polices his own sport and keeps at least some of it within the financial framework of all shooters. Silhouette shooting might be the catalyst from which a new generation of shooters will spring. With urbanization constantly cutting deeper into hunting lands, along with the heavy attacks on hunters from the anti-gun forces, we need all the shooters possible to keep the flame of interest in firearms lit. This interest can increase through competitive shooting as long as the masses can participate with factory outfits at prices they can afford.

When I got home from the North Buffalo Sportsmen Club, I dug out my Ruger 44 Mag Super Blackhawk and aimed the empty gun through the kitchen window at a distant rock, wondering if I could hit one of those rams two football field lengths away. Maybe someone put a pinch of 2400 powder in my coffee at North Buffalo, because I think next year I'll crank out some ammo for the big Mag and get in line. . .

In the wind

toni williams

information writer



The controversial Garrison Diversion Unit in North Dakota, which would "borrow" water from the Garrison Dam to irrigate farmlands, got a sour look from the International Joint Commission (IJC). The IJC recommended against portions of the project which would connect a U.S. and a Canadian watershed because they would cause major annual migratory duck losses in Manitoba, would introduce unwanted fish and diseases into Canada, and would create water pollution. The IJC's report apparently surprised the project's Congressional supporters.

One round has gone to the Good Guys in Massachusetts. Highway Interchange construction plans which would have involved channelizing part of the Nashua River were at least partly altered. Now 220 acres of habitat downstream will be purchased in "mitigation" of the loss of wildlife habitat caused by the construction. The state's Department of Public Works had refused to do even that much before.

A seventh elk this year has been killed by "outlaws" in Michigan. While the Pigeon River herd there is larger than Pennsylvania's small wild herd, it still cannot survive continual poaching. The elk herd has been slowly rebuilt over the past two years but biologists fear such poaching, as well as oil field development, may negate the gains. A "poacher patrol" reward offered by Michigan United Conservation Clubs has twice led to arrests of elk poachers.

Under guidelines requiring soda beer sold on federal installations to be in returnable bottles or cans, Fort Kn began a testing program last March, as nine other military bases. Only Fort Kn results have been reported, and they are good. Return rates there reached 90 percent, with no drop in overall beverage sales. A similar but older program in semite National Park has been successful with "overwhelmingly positive" public reaction. Their return rate was about 80 percent.

The Interior Department proposes to increase fees for grazing rights on public lands. Sheep and cattle raise primarily in the West, rely heavily on Bureau of Land Management and Forest Service lands. While this may help to keep down the cost of meat for consumers, many problems are involved. The increase of about 50 percent in fees may be an attempt to discourage the serious overgrazing that has caused problems in the past.

Among the proposals recommended by the International Whaling Commission (mentioned in the November column) was a complete ban on bowhead whale hunting. This species is seriously endangered but is also central to Eskimo life. Therefore, the U.S. government was put in the difficult position of deciding between strong conservation stance and its responsibilities to its native peoples. Many feared that objecting to the ban would destroy U.S. credibility in the struggle to save dwindling supplies of many whale species. Over strong Eskimo objection, the U.S. finally decided against opposing the ban but will appeal to IWC later to approve limited Eskimo hunt.

It's not yet cause for jubilation, but news that the kill rate of porpoise per ton of yellowfin tuna is down to one-quarter of the 1976 rate does at least sound hopeful. Due to court injunctions and other delays, fishing was greatly reduced this year. It remains to be seen whether the encouraging trend will continue in more normal fishing seasons.

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If there were a survey to name the most beautiful animal in Pennsylvania, chances are good the red fox would take top honors. His orange-red coat, magnificent white-tipped plume and black leggings make him stand out like a beacon among the brown and gray hues of most of the state's wildlife. To unexpectedly see one silhouetted against the February snow, pausing for an instant on his daily hunt, is like seeing a sudden flame on a cold winter day. The contrast is overpowering. Even when, an instant later, he disappears as if by magic, his image lingers on, unforgettable, and will warm many moments of the months to come.

Not All Peaches and Cream

LAST OCTOBER, JUST BEFORE the general fall hunting season started, we used this page to talk about SPORT, a program originated a year earlier by the Game Commission. Many programs, due to the subjects they deal with or the number of people and places involved, are inevitably complicated and hard to understand. But not this one. The basic objective of SPORT is simple: the elimination of slob hunters. With only about 135 game protectors and 1500 deputies in the whole state, it was obviously impossible for Commission officers to be everywhere in the fields and forests at once. The only ones who were there—everywhere—at any given time were the hunters. And the Commission knew the vast majority of these were good guys, the sportsmen who love and respect the outdoors, the game, and the rights of others. So the obvious solution was to gain the help of these in doing something positive to counteract the actions of the slobs. Thus was born SPORT, an acronym for Sportsmen Policing Our Ranks Together. And the program is proving successful. We have had numerous reports from hunters which resulted in successful prosecutions of slob violators. A few of these incidents have been described in Field Notes and more will be as time goes on. However, it isn't possible to publish such a report on every helpful act, so we want to say here and now that we appreciate every item of information, every bit of cooperation. Such aid is particularly appreciated by the game protectors and their deputies, the men who are actually working in the field and coming into direct contact with both the violators and the good guys. More than one officer has told me how great it is to have help from hunters who formerly looked the other way when game laws were broken. It's encouraging, to say the least.

However, all is not peaches and cream yet, not by a long shot. We—and therefore you, as a sportsman—still have many problems. A lot of these revolve around the way farmers are treated. For unfathomable reasons, too many people who buy hunting licenses think this gives them the right to do stupid things. Many leave their cars parked in a lane where they block the landowner's access to his own fields while they blithely go off hunting all day—probably without asking permission. Others don't stop with improper use of the lanes or private roads; they thoughtlessly drive across fields, oftentimes planted fields or rain-softened ones, leaving deep ruts or torn-up sod to permanently mark their passage. If they care in the slightest what they've done, there is no sign of it. Their only thought after noticing a problem they've created is to vanish before they can be held accountable.

This is where our SPORT members, and others who agree with their philosophy, become important. A landowner is no more likely to see an individual violation of his property rights than a game protector is likely to see a deer shot illegally. Yet another hunter could well witness such an act. If you are that hunter, and you want to continue hunting on private land, you had better identify the violator (a hunting or car license number will do) and turn him in. You're not being a squealer. That slob is stealing your hunting rights. Remember that next time you see one of them in action.—*Bob Bell*



Ken
Hunter 77-

How can I walk the winter hills without getting . . .

IT IS cold. My breath hangs in little clouds. I climb out of the valley noting that the temperature is rising as I reach the old fields that cover the shoulder of the ridge and surround the five-acre tract of pine plantings. A six-inch base of packed snow is covered with an inch of powder that fell late yesterday afternoon. Cottontail tracks cross and recross, making a web of trails. Last night's full moon drew them from their snug squats among the pines to feed and frolic in the open. The night has not been without its dangers. Paired weasel tracks make exclamation points in the snow. I follow them until they are lost in the confusion of rabbit paths.

Years ago, along the lane that forms the boundary between the fields and the pine planting, I placed a birdhouse. It has served as a nesting residence for bluebirds, chickadees and tree swallows. Now, the snow beneath the aspen tree to which it is fastened is a filigree of deer-mouse tracks. The front of the house is hinged to swing outward from the bottom. I remove the pins and look inside. There is a ball of shredded bark. From a neat entrance in the side, the occupant looks up at me. The big eyes, sensitive nose, almost transparent ears and quivering vibrissae somehow remind me of the brownies of childhood stories. I close the box, insert the pins and drop a few kernels of corn through the opening as an apology for disturbing the creature's slumber.

A gray fox has quartered the field like a well-trained bird dog. It is impossible to follow any single trail because the cottontail tracks form a tangled maze. Four deer have walked up the old lane and browsed on the weed stems and scattered shrubs that dot the openings. The tracks finally bunch and follow the worn path that skirts the planting and leads to the hardwoods above. One set of tracks constantly turns aside from the path. The drags and constant surveillance of the back trail indicate these are a buck's tracks. I suspect the group consists of a buck, a mature doe and a pair of fawns of the previous spring.

The view from the edge of the pines

SNOW ON MY BOOTS

By Al Shimmel

is unobstructed. I stop and watch the bordering hardwoods. The distance is well over a hundred yards. Beyond the edge of the timber are several clumps of laurel. The ridge rises sharply and the snow forms a perfect background. I catch a flicker of movement beside one of the laurel clumps. It is strange how the eye will pick up horizontal lines and movement. I can see the back lines of two deer and the head and shoulders of another. They have seen me. For long minutes I stand perfectly still. Suddenly there is a confusion of movement and the flashing of tails. All four bound away, not up the ridge but down over the edge of the bench and out of sight. It is several weeks since gunning season but they are taking no chances. My friend Mak has a stand a hundred yards from the pines along the bench. Here he has bagged a number of bucks. The course of the deer would take them near his stand.

I turn away and take the old road through the pines toward the lane. The pines were put out as a Christmas tree plantation. For several of years the owner sheared them each summer. When they had grown sufficiently, he sold several thousand, then allowed the trees to grow unrestrained. Now they are a dozen feet tall and form a dense cover that is a haven for wildlife. I

check this area often during the winter. Migrants from the north find it to their liking. I have observed pine grosbeaks, crossbills, Acadian chickadees and pine siskins. Once I found a saw-whet owl and twice snow buntings have visited the open, wind-swept field to feed on weed seeds. Today I see only the siskins. Their subdued yellow wing markings make a cheerful note against the somber evergreens. Through neglect the road has grown up with weeds and brambles, with only a narrow game trail through the center. I notice that two foxes had been hunting. They are gray foxes. Their distinct pad marks and larger size distinguishes them from the smaller hair-blurred pads of the red.

Heading for Den

I reach the lane and turn up the hill again, hoping to glimpse the deer again. The fox tracks on the road are an indication they have finished hunting and are heading for a den. Finally the track of the smaller turns toward a patch of brush laced with grapevines. The larger track follows the unused lane. The tracks are in a straight line and evenly spaced, indicating this fox has a certain destination in mind.

A quarter of a mile passes and then there is a print where the fox sat for some time. The mark of his brush is plain, as are those of his pads and hind legs. For eight or ten feet the snow is a confusion of tracks, scratchings and indications that the fox has rolled over and over with the abandon of a puppy at play. I am puzzled by this behavior. I study the area carefully and finally my gaze catches a bit of pink color in the snow. A paper tissue has been pushed into the bank at the side of the lane. Beside it is the print of the fox's nose. Someone, perhaps a hunter, has dropped one of those scented tissues. The fox has been fascinated by the scent and has played with it with all the enthusiasm of a child with a new toy. The thought crosses my mind that this fox could be trapped using a scented tissue for bait.

I follow the fox tracks for another quarter mile. It finally turns from the lane, crosses a field and at the edge of the woods is joined by a smaller track,

presumably the same fox with which it had hunted the fields below. A deer carcass is the focal point, not only of the fox trails but also of weasel, opossum and skunks tracks. The tiny lacings of mice and shrews are everywhere. There is little left of the carcass but the bones and hide.

The fox and his mate have gone away together. I follow and find they have gone aground in an abandoned clay mine that has been partly closed by a slide of rock.

At the other side of the slide I find the trail of a porcupine. It has come out of the rocks, climbed to the top branches of a yellow pine, peeled enough bark to satisfy its hunger and then returned to its den. The branches of this tree and at least three others show that "porkey" has used this den for several years. Some of the scars are healed. On one tree, about six feet of the top and side branches have been stripped of every vestige of bark, leaving the dead branches a stark silhouette against the sky.

I descend the slope toward a low flat where a small spring feeds a brook that skirts the ridge. Here I search a dense clump of green briars and tangled grapevines that form an ideal winter spot for grouse. Tracks crisscross the thicket in every direction. Two volunteer apple trees grow at the edge of an abandoned timber road. Just beyond, a stand of aspen reaches toward the ridge. Grouse have been budding in the aspens and have given their attention to the apple trees. Light dots show where they have gathered buds.

There is a night roost at the base of a stump. Piles of woody droppings indicate their food. Farther on two scraggly pines grow in the shade of the hardwoods. Both of these trees are favored roosts, as indicated by the scattered droppings on the snow below. A single small hemlock with thick, frost-pruned branches grows in the timber close to the brook. At my approach three grouse flush from under its branches and roar away toward the safety of the thickets. I am caught unaware although during the past gunning seasons I have frequently found grouse in this spot. It is a habit of this



AT THE OTHER SIDE of the slide I find the rail of a porcupine. It has come out of the rocks, climbed a tree, peeled enough bark to satisfy its hunger and then returned to its den.

grand game bird to use solitary evergreens as hiding places during fall and winter months.

A hundred yards below the hemlock is a section of log discarded from an old timber cutting. For the past two years it has been used for a drumming log. Cock grouse begin to frequent these logs shortly after the first of the year. They use them as night roosts during mild weather. I find a grouse has spent some time here. Although it is six weeks before the drumming season will be in full swing, evidently the urge to drum is already making itself felt. There are wing sweeps in the snow that tops the log. These are not flight sweeps, as the tracks show the grouse walked from the log to a laurel patch beside the brook. This is a somewhat special drumming stand in that it is located so low in the valley. Most drumming logs are rather high on the ridge with a fairly open view toward the east.

This grouse (I presume it is a cock) walked through the laurel to the edge of the brook. Here it crossed on stepping-stones that are only lightly dusted with snow. I stoop to examine the tracks, noting the prints of the horny combs on either side of each toe that serve as snowshoes in winter. I cross on the same stones, climb the bank where the grouse searched for gravel, and follow the woods road down the hollow.

At the base of the ridge is a wide flat. Three springs emerge from its base. The warm waters on their overflow cut crooked black openings through the snow. After meandering across the flat they unite, flow a short distance, then join the main stream that runs through the valley. Four wild turkey tracks lead down to the flat. The huge oaks have borne an abundance of acorns and the turkeys have raked the snow and leaves into windrows along each of the spring brooks in search of mast. Their graffiti is everywhere, but so overlaid that it is impossible to read. Tracks lead away toward the high fields, a mile above.

Perhaps these are the same birds that worked the fields the previous spring. I had been making an early morning tour with my camera. As I approached the field I thought of the turkeys and wondered if they might be feeding late. With the 300mm lens in place, I set the shutter and crawled through the timber to the edge of the field. Sure enough, they were bunched and feeding in the yet unturned stubble of last year's corn. I took one picture, then, noticing the meter reading, set the shutter at 1/500 of a second and dashed into the open. The film records their long strides as they raced for cover. Although the images are small at the distance of over a hundred yards, I prize these slides very highly.

Black Specks On Snow

I had been noticing black specks on the snow. Unthinkingly I had believed this was some form of air pollution that had come to the hills. Farther down the stream I note what seems to be coal dust on the snow bordering the water. Not aware of any stripmine operation on the watershed, I bend down for a closer look. Masses of dead leaves

washed against a pile of drift are covered with minute insects. I stoop for a closer look and as my warm breath reaches them they begin a series of acrobatic flips. I recognize them as snow fleas. I am impressed by their numbers. I scoop a few into a collecting bottle for examination at home where a magnifying lens is available.

Black Bands of Water

I reach the cutting where the brook joins Laurel Run. The stream is frozen solid in the still waters and only narrow open channels of rapids show as black bands of open water. Several ledges of outcropping sedimentary rock border the water and reach a few yards back to where the slope begins. I find where a mink has left the rabbit paths and crossed the snow-covered ice to where a seep spring has opened an area. Here it slipped into the water, perhaps in search of a muskrat den or a semi-dormant fish.

I am drawn to these ledges. In boyhood we had a swimming pool beneath them and used them for diving and sunning. Now I am looking for weasel tracks. Seldom do I visit that area without finding evidence of these interesting little predators. I have come to think of these animals with a very personal interest. It came about in this way. . . .

I followed the deer tracks toward the shoulder of the ridge. I concluded they had been made by the buck my brother and I had observed during late summer and early autumn and had failed to find during the opening days of season. A phone call at noon had informed me my brother would be on his stand beside the big double cherry tree waiting for me. It was late afternoon when I finished my work and got into the woods.

An old field bordered the timber about halfway up the south slope. The tracks went that direction and were

fresh. I moved as quickly as possible. Less than two hours of shooting time remained. I left the tracks and cut over the ridge. Here I stopped and stood quietly, watching the thickets below. Something moved. Jack's stand was on the lower bench. The deer was between us. I moved a little so I could see the probable route the deer would take. Suddenly I heard the blast of Jack's 300 Savage. Seconds later the second shot. "Got him!" came the call.

I walked down to find a fallen 7-point buck. My brother grinned. It is our custom that the shooter always allow the other to field-dress the game.

My work completed and the live animal safely stowed in a plastic bag, I walked the few yards down to the ledge to wash the blood from my hands. As I stooped beside the water, I looked up, attracted by a rustling in the dry leaves under the overhang. A weasel stood there with its front paws on a fallen limb, sniffing an apparently unafraid. I cut a bit of the liver, impaled it on a hazel sprout and held it toward the animal. Without hesitation, it bounded down and standing on its hind legs, grabbed the meat. It darted back to the ledge and disappeared into a crevice. In less than a minute it was back. I cut a more generous piece and again watched it disappear. I completed my ablution and as I turned away the weasel again came back for more. I tossed a last gift and walked back to where Jack was waiting beside the buck. . . .

Now, I climb over the shoulder of the hill and come in across the back garden. The bird feeder is well patronized today. Among the unusual visitors are two Acadian chickadees and three Carolina wrens. . . . a meeting of north and south. Ruth is sitting inside the sliding glass doors, watching the birds at the feeder on the patio. She smiles when I come in the walk the calls out to me, "You have snow on your boots."

But They Make Lousy Neighbors

The bellowing of the American alligator is considered, by other alligators, to be one of the great animal voices of the world.



HEARD THE OLD FAMILIAR deer rustle in the brush. Suddenly I was cold no more. A flash of brown, then the widespread flag of an alarmed whitetail appeared briefly. . . .

Hard Winter Hunting

By Theodore E. Kiffer

AROUND 11:30 ON THE morning of January 14, 1977—the next-to-last day of the flintlock deer season—my hunting companions, Don Bowser and his son Kevin, and I had finally yielded to the knee-deep snow, the biting wind, and the sub-zero temperature. Gathering a good supply of dead wood, we kicked a clear place in the snow, built a roaring fire, toasted our frozen sandwiches, and enjoyed a warming lunch. After laying our plans for the afternoon, we somewhat reluctantly extinguished the fire and started to work our way up onto a laurel-covered ridge.

I circled the ridge and paused on the opposite side of a large area of dense laurel. Knowing that Don and Kevin would eventually move toward me, I selected a stand near a cluster of small oak trees and waited. In less than forty-five minutes, the bitter cold had penetrated the several layers of my

hunting clothes. As I felt the first shivering tremors, I decided, against my better judgment, to move about a bit and get warm from the exertion. (How many times I have moved from a good spot only to return later and find deer tracks in my tracks or, worse yet, another hunter dressing a kill.) Yielding at last to the cold, and cradling my Thompson-Center Hawken in my arms, I heard the old familiar deer rustle in the brush. Suddenly I was cold no more. A flash of brown, then the widespread flag of an alarmed whitetail, every hair looking as if electrified, appeared briefly through the olive-green screen of laurel leaves and then was gone.

Keeping my gaze in the direction in which the deer had disappeared, I pulled back the cock and squeezed the rear trigger, setting the hair trigger. Raising the Hawken to my shoulder—there was no place for a rest—I caught



MY DEER—a button buck— was killed in its tracks by the soft lead projectile of my 45-cal. Thompson-Center Hawken. It is a potent firearm which makes the flintlock season something special.

another glimpse of brown. Then I saw clearly the front shoulder and ribs, motionless between two oak trees. Settling the front bead sight into the rear notch and centering on the rib cage, I touched the delicate set trigger. The recoil, the cloud of dense smoke, and the reflex squinting of my eyes as sparks from the heavy charge in the pan stung my cheeks combined to make me lose sight of the deer.

Hurriedly, yet with a precision born of much practice, I went through the loading routine: pour 65 grains of FFFg powder from great grandfather's horn into the measure, pour the powder down the barrel which was slanted away from me, place one of my home-cast 225-grain maxi-balls in the muzzle, start it and then ram it home, squirt a good measure of FFFFg powder into the pan, and pull the frizzen back, closing the pan. Only then did I dare look to where I had last seen the deer. Noth-

ing but empty woods and unmarked snow. Heart pounding and gun at the ready, I started forward, hoping at least to find hair or blood on the deep snow.

For more than a year, I had been waiting for such an opportunity—a clear standing shot with my flintlock. I had prepared diligently for the M/I hunting season by really getting to know my flintlock and its capabilities. I cast my own bullets, visually inspecting and then weighing them and remelting all but the best. I experimented with a variety of powder charges, finally settling on 65 grains of Gearhart and Owens FFFg. I set and reset the flint in the cock until I discovered that about 1/64 of an inch clearance between the flint and frizzen at half-cock gave almost instantaneous, never-fail ignition. More than a hundred shots at the Scotia range had sharpened my shooting skill; and, more important, had given me confidence in the Hawken. From 50 to 100 yards, I could easily and consistently produce 3-shot groups of 2 to 4 inches, plenty good for deer hunting. My anticipation increased as opening day approached, especially after sighting on several deer that walked past me during the one-day bear season.

“Gang Aft Agley”

Robert Burns and St. James, respectively, have cautioned that “the best laid plans o’ mice an’ men gang aft agley,” and that we should not take things for granted, but “. . . the Lord willing.” The last Friday in November a day I normally reserve for a final scouting trip, found me admitted to the hospital, undergoing tests to determine the cause of intense pain in my abdomen. Saturday with its battery of tests, x-rays, and probings gave way to Sunday—the day before deer season. At last came the word: surgery was needed and soon.

After being discharged from the hospital on December 8, I concentrated on recuperating as rapidly as I could and within ten days was walking four miles every afternoon and beginning to look forward to the special flintlock season which would open on December 27. A trip to the Scotia range just before

Christmas proved that I could still shoot and that the Hawken, too, was ready.

Don Bowser had visited me in the hospital and, as we talked about hunting, indicated that he would like to tag along during the special season. I assured him that I would be glad for his company and would use him as my "dog." To my great surprise and pleasure, he slipped into the pew behind me in church the Sunday morning after Christmas and whispered with boyish excitement, "My family was so inspired by your article in GAME NEWS (December, 1976) that they got me a Hawken flintlock for Christmas." Circumstances, however, kept Don from going out with me during the first half of the season.

Tried New Area

I hunted a couple of days on my old favorite territory, State Game Lands 44 in Elk County, and then tried a new area, SGL 33 in Centre County (much closer to home); and though I saw several deer, did not attempt a shot. If possible, I wanted to make a clean, quick kill, and the deer did not cooperate: they were all too far away or moving too fast. But I did learn something about deer hunting.

I have killed more than thirty deer and have taken them with rifle, with bow and arrow, and even with shotgun in an adjoining state. Most of the deer I have killed (and I suspect that the same is true of most hunters) were bush-whacked while they were on their way to a feeding ground, were feeding, or were running from other hunters. However, many of our muzzleloader Game Lands, and especially the two that I hunted, are in mountainous rugged timber, no farm fields nearby; and the hunting becomes just that—*hunting*—and not waiting and watching. I have observed thousands of deer while hunting: I have had them walk under trees in which I was hiding, I have actually touched two with a shotgun barrel while hunting small game, I have had them almost run over me in buck season, and I have wondered at times how such careless creatures could survive.

But something happens to them in January: the almost careless feeding binges of autumn have ended; and the wild, reckless, abandoned behavior of the rut has ceased. The January deer, especially in our mountain Game Lands, concentrates all its marvelous faculties and powers on one aspect of life—survival. The special wariness of the deer and the deep snow and bitter cold of January combined to make the most challenging hunting I have ever attempted. Then, too, no armies of hunters were moving the deer as they do in the regular season. In parts of nine days of hunting on two different Game Lands, I never saw another hunter except those who were with me. After he could join me, Don and I hunted hard together as a team, but fleeting glimpses or deer standing a long way off provided no opportunity for a clear shot until the incident that I mentioned in the beginning of this account.

As I hurried through the laurel toward the spot where I had last seen the deer, my almost unbelieving eyes spotted a bright brown patch against the snow. Stopping and then stretching on tiptoe, I could see the deer lying in a small depression, apparently dead. As I approached the deer, the evidence in the snow (the furrow the bullet made in the snow after passing through the deer, the total absence of any struggle marks in the snow) clearly indicated that the deer, a button buck, had been killed in its tracks.

Over Sixty Steps

After Don and Kevin arrived, I paced the distance of the shot and found it to be just over sixty long steps. As I dressed the deer and observed the tremendous internal damage done by that soft lead bullet, a new sense of respect for the Thompson-Center Hawken grew within me. It is indeed more than a passing fancy or fad generated in part by the Bicentennial. My 45 Hawken is a potent, beautiful weapon with which I hope to spend many a day afield: on the range, in the regular seasons, and in that most challenging season of all—the special flintlock season.



MY 10:45 APPOINTMENT

By Tony Mennuti

I'VE HAD THE appointment penciled in on my calendar for six months now, and the date is still a full six months away. I don't normally schedule my time a full year in advance (I guess only doctors, dentists, and plumbers list their appointments that far ahead), but there it is—on the next to the last page of my calendar:

Monday, November 28, 1977

10:45 a.m.—Sleeper's Tree

At 31 I'm a newcomer to hunting in general and to deer hunting in particular. I've found that at my age it can get awfully frustrating to discover that you know a lot less about something than the average 14-year-old does. But the initial embarrassment and awkwardness that I felt were more than compensated for by the unexpected thrill and excitement of finding that a whole new world had begun to open up for me.

Since I was born and raised in the city, my introduction to the outdoors had to wait until I had the good fortune to marry a girl from Carbon County, in anthracite coal country near the Pocono Mountains. My new father-in-law, Paul Gerhard (known to most people in the area as "Sleeper"), is an inveterate deer hunter, rattlesnake hunter, and trout fisherman. He probably knows the Broad Mountain from Quakake to Penn Haven as well as anyone. His enthusiasm for the woods is boundless. So, after a few years of coming upstate from the Philadelphia area for occasional weekend visits, Sleeper's enthusiasm finally convinced me to get a hunting license. It was the best investment I ever made.

Army basic training had taught me more than a fair amount of respect for firearms and left me with at least a reasonable hope that I could hit in the general vicinity of whatever I pointed at. But aside from that, I found myself to be a babe-in-the-woods. As the only time off for hunting I could manage that first year was a long Thanksgiving weekend, I had to wait until the end of November before I could get my first lesson. I had never handled a shotgun before, so it was decided that my introduction to hunting would be a confrontation with one of our most humbling species—the claybird.

I spent several hours that Thanksgiving afternoon with Sleeper at the hand trap. The gradually decreasing number of embarrassing misses began to give me a little much-needed confidence in myself, and a great deal of confidence in the dependability of the well worn Remington Model 31 pump that would be mine to use. Whenever I did my part by properly swinging ahead, that little old 20-gauge did its part by leaving only a puff of smoke where the target used to be.

That first Friday and Saturday were not overly productive so far as game was concerned—only one cottontail each day—but walking back to the Jeep at the end of those two days, I realized I had spent one of the fullest and most pleasant weekends of my life. I had seen more country close-up than I had ever seen before. I had gotten to know my father-in-law better in those few hours than in the previous four or five years. I was introduced to the warm glow of muscles tired from a long day in

the cold, fresh air. And I experienced for the first time the pleasant weight of a little cottontail rabbit safely tucked away in the game pouch of my hunting coat. But most of all I found myself addicted to the beauty, peace, and solitude of the woodlands. I was hooked and I knew it.

The Real Thrill

But the real thrill of that long weekend was yet to come. Monday would be the opening day of the 1975 buck season, and on Sunday afternoon I could feel the tension and excitement begin to build as Sleeper and I drove to the Club grounds where we would hunt. After registering for Monday's hunt, we headed back into the woods for my first visit to "Sleeper's Tree." This was really a cluster of three trees in which a small platform had been built about a dozen feet off the ground. It stood on a slight slope a quarter of a mile above an old beaver dam that was one of sight beyond the trees. Sleeper hadn't used this spot for two or three years. As we checked the stand to make sure it was still sturdy, we talked about the likelihood of seeing a buck from this tree the next day.

"Oh, there's deer around here for sure," Sleeper said. "I've been back through here three or four times in the last few weeks and I've seen quite a few doe."

We walked about 100 yards down the slope and Sleeper pointed out a spot where three different deer runs intersected. We looked up and down each run, being careful not to trample around on them, and he showed me numerous fresh signs. But what I wanted to know was if any of these deer had been a buck.

"Can't tell for sure from the tracks," he said, "but there's plenty of sign that a buck or two spent some time around here earlier this year." A brief walk turned up half a dozen buck rubs scattered throughout the immediate vicinity.

"You can never be sure what a deer is going to do," Sleeper said, "but I'll bet a lot of hunters will start getting pretty cold after a few hours. And when the

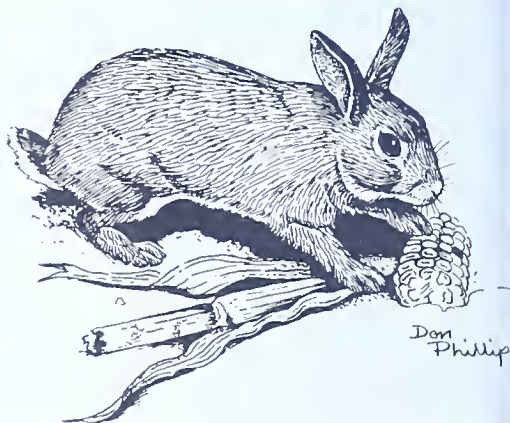
hunters start moving around, the deer start moving around too. A few of those deer will come right down through here, heading for the other side of the beaver dam."

His predictions lifted my expectations even higher than they already were, and added a little extra incentive to the sighting in of my deer rifle back at the clubhouse. I would be using a scoped 300 Savage Model 99 that Sleeper had picked up secondhand about six years before. He had since bought a new 243 of the same make that he would be using. After we finished sighting in, I spent the entire ride back to Weatherly pumping Sleeper for all kinds of last minute information. I guess my excitement was starting to get the best of me.

Needless to say, I didn't sleep well that night. Visions of large-antlered, many-pointed bucks kept leaping through my dreams. As I dressed hurriedly in the morning, the pleasant weather of the weekend had given way in the predawn darkness to a bone-chilling rain that mixed alternately with sleet, then snow, and then back to rain again. My initiation into deer hunting was not going to take place on a bluebird day.

The walk back to the tree warmed me, but by the time Sleeper had moved on to his spot near a big pine several hundred yards away, the cold had already begun to penetrate my clothes. By 9 o'clock the rain and snow stopped

THAT FIRST Friday and Saturday were not overly productive—only one cottontail each day—but I realized I had spent one of the most pleasant weekends of my life.



and the sun even managed to peek through the clouds occasionally. But being a city boy and not used to the cold, I felt frozen to the bone. I was beginning to wonder if it was all worth it. Early the first hour or so I had heard some sporadic shooting below me to the left, and then some more shooting quite a distance above me. But for the last hour the only sound had been the chatter of a pair of red squirrels scavenging in the fallen oak tree below me. By 10 o'clock I had climbed down from the tree stand to stretch my legs a bit and to make sure that my toes were still a functioning part of my body. I had finished almost all the hot coffee in my thermos in a vain attempt to keep warm. About that time, Sleeper came by to check on how I was doing. He told me he was going to hunt up along the survey line for a little way, and that he would be back to pick me up later that afternoon.

Half an hour after Sleeper left, I was leaning quietly against the tree when I heard something moving through the woods above me. I eased my head around the tree, only to see another hunter making his way through the woods. As I leaned back disappointedly, I spotted a slight movement out of the corner of my eye. My heart jumped into my throat. As I had been watching the hunter moving above me, a deer had moved into the small opening about 100 yards below. He was standing broadside, intently watching me. Luckily, standing as I was, the tree had broken my outline. That deer just stood there, trying to figure out what the strange creature in faded blue jeans, bright red coat, and blazing orange knit cap was.

I recalled Sleeper's advice about quick movements frightening deer, and took what seemed an hour to turn my body into position and raise the 300 Savage to my shoulder. I fully expected the deer to disappear into the laurel at any second, but he stood perfectly still, just staring up at me. As my cheek settled against the stock, the glint I had seen above the deer's head came into focus as a small but perfectly symmetrical 4-point rack. Amazed that my

hands were remaining relatively steady, I slid the crosshairs along his body until they stopped a few inches behind his shoulder. I let some air out of my lungs and squeezed gently on the trigger. Nothing happened. I almost panicked. What was wrong? What was I going to do now? Then suddenly it dawned on me. I had forgotten to take off the safety! What a jerk, I thought. A perfect chance at my first buck, and I blow it because of a stupid mistake.

Nothing Else To Do

There was nothing else to do now but hope for the best. I flinched at the metallic click of the safety, but that fat little buck was so intent on watching me that if he did hear anything, he sure didn't show it. I wasted little time in lining up my sights a second time and hopefully squeezing the trigger. This time I heard the sharp crack of the rifle and felt the firm jab of recoil against my shoulder. When the rifle settled down, the buck was gone from sight. I looked expectantly toward the clearing, but he was nowhere to be seen. I knew I had hit him. He couldn't have disappeared that quickly. When I got to the bottom of the clearing, I breathed a sigh of relief. There he was, hidden from view by a small rise I had failed to notice. He had dropped right where he stood, not moving an inch.

Looking down at the deer, I remembered a story Sleeper had told me about a big buck he had shot almost 30 years ago. He had carefully placed his rifle in a safe place and taken about ten steps toward the deer when it sprang to its feet and bounded into the thick cover. Hours of red-faced tracking had failed to turn up that buck. I took the moral of that story to heart and quickly placed a second, probably unnecessary, shot into the buck. I no longer felt the least bit cold as I knelt to tag him. I guess my adrenalin had finally caught up with me because my pencil stub shook uncontrollably as I tried to fill out the tag. If anyone had tried to read it, I'm sure they'd have thought the wiggly scrawl was the work of some not-too-bright six-year-old. But one thing did stand out clearly: the time—10:45 a.m.

Oh, I took a lot of good-natured ribbing about beginner's luck and buck fever and stuff like that, but I was sure proud of my 4-point. And I think that Sleeper was even more proud of it than I was. His son-in-law the tyro had gotten one of only two bucks taken at the club that first day.

As the opening day of the 1976 season approached, the ribbing started again. Not-so-subtle digs about my luck were continually dropped into the conversation. In self-defense I told everyone I planned to get my buck at 10:45 again this year so I could be home in time for lunch. Sleeper and I even laughed, as we checked out the area around the tree, about how lucky it would be if I managed to see another buck from the same spot again this year. The woods around the tree had changed a bit during the last year. PP&L had cut a 20-foot-wide strip along the survey line only 150 yards beyond the tree. But the small clearing below, and the second off to the right, were still there. And the location of the deer runs had not changed. In fact, they seemed to show even heavier traffic than the year before, if we read the signs correctly.

Extra Layers

Remembering how cold I had been on the previous opener, I added a few extra layers of clothing this year. But Mother Nature was not to be outdone. She lowered the mercury more than enough to negate my foresight. She even threw in a steady, blowing snow. As Sleeper and I approached the tree in the gray half-light of morning, I was every bit as cold and nervous as I'd been the year before. I knew I had been awfully lucky and that the odds were greatly against my getting a buck two years in a row. But I couldn't help feeling the excitement of just being out there for another chance.

As the sky began to lighten, I could see three unclear shapes sneaking through the cover about 50 yards to the left. Try as I might, even with the scope, all I could make out in the dim light was their gray forms. I knew they were deer and I could see the last one



EARLY IN THE DAY I heard some sporadic shooting, but for the last hour the only sound had been the chatter of a pair of squirrels scavenging in a fallen oak tree down the slope below me.

was a lot bigger than the other two. But they were long gone before there was enough light to identify a target and shoot. I hunched my shoulders to keep the cold and snow off my neck and settled in for a long, cold day. I had seen three deer already this morning, and that was probably all my luck was going to entitle me to see. After an uneventful hour I was suddenly startled by a loud, piercing squeak only a few feet behind me. I turned in time to see a doe bounding away, every bit as surprised as I was to suddenly find us so close to one another. "Well, at least I must be standing quietly enough," I muttered, "even if I wasn't alert enough to see her coming."

The snow was falling harder now, and by 9 o'clock the wind was blowing it directly into my face as I peered down the slope toward the clearing where the previous year's buck had so suddenly appeared. Through the whiteness I could just make out two deer using the run to the left of the clearing. I swung the scope along with them as they moved, but the cover was too thick to get a good look at them, much less a good shot. But I was in no hurry. They would soon step into the clearing below me. I moved the scope ahead of the deer and into the opening.

A few more steps and the lead deer would walk into view. Just at that moment a large snowflake swirled—SPLAT—right onto the front lens of my scope. I stood there helplessly as the two deer crossed the narrow clearing and moved off into the trees. My luck had certainly run out.

I decided to take a break, so I walked up to the power line to stretch my legs, and then treated myself to hot coffee when I got back to the tree. Back up in the stand, I began to stare out into space in a state halfway between daydreaming and dozing off. How long I stayed that way I'm not sure, but I suddenly realized that the snow had stopped. As I scanned the woods, I picked up movement in the trees below me. Three deer were working their way up through the woods toward the second clearing off to my right. I cautiously raised my rifle and froze into position. The lead deer, a large doe, broke into the clearing at an easy walk, then stopped and carefully scanned the area all around her. Not seeing anything out of order, she proceeded at her leisurely pace. Secure in the doe's assessment of the situation, the second deer came out of the woods. I knew this was it. With his head held down near the ground, his 9-point rack was the first thing to come into view. This time I remembered to take the safety off, and at the crack of the rifle the three

deer scattered. The third deer turned back into the woods, but the buck and the doe raced across the clearing and through the cover on the other side. I worked another load into the chamber.

I saw the buck stumble after a few bounds. My first shot apparently had gone low and too far forward. He was up and moving again, and if he made his way across the power line above me, he would probably be finished off by another hunter. I tried desperately to find an opening in the cover as he angled away. My next two shots were either clean misses or simply never made it through the trees. But now, instead of continuing to move away, he began to circle. When he stopped momentarily I had a clear shot. He went down.

As I sat on a log near him and waited for my composure to return, I glanced at my watch. I had done it again. The time was 10:45 a.m.

Well, as I said in the beginning of this story, I've already made my plans for 1977. And no matter how much ribbing I have to put up with (although I think some people are beginning to take me half seriously), I know just where I am going to be on the opening day of buck season. I have a very important appointment scheduled, and it reads this way:

Monday, November 28, 1977
10:45 a.m.—Sleeper's Tree

GAME NEWS Cover Prints Available

In answer to numerous requests, we can now supply a selection of GAME NEWS covers in a size and format suitable for framing. A set of four covers, all by internationally-acclaimed wildlife artist Ned Smith, now is available. These are full-color prints, enlarged to 9x12 inches on 11x14 heavy, coated paper, without the GAME NEWS logo. The set includes Ned's woodcock from the April 1974 issue; the woodchuck from July 1974; the doves from September 1972, and the buck and doe from the December 1971 issue. These prints are not available individually. The price is \$3 per set, delivered. Make check or money order payable to Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120.



The Permanent Camp Mystique

By Charles T. Bell

TRADITION AND CUSTOM tend to strongly affect the way of life of Pennsylvania sportsmen. Where else but in Pennsylvania, for example, is the opening day of deer season regarded as an annual ritual to be observed by hunters and non-hunters alike? Where else is the occasion an accepted privilege not to be denied by spouse, employer, school, or government agency? Out-of-state strangers must be perplexed by the preoccupation of Pennsylvania news media with the annual coverage of the event, complete with a multitude of ads directed to opening-day "deer widows."

Among the more delightful and rewarding traditions is the maintenance of permanent camps by groups of sportsmen. Usually located and established as a base from which to hunt deer, they also may serve as a year-round focus for many types of recreational activities by entire families or groups of families.

To understand the mystique of a permanent camp is to partially understand why Pennsylvania sportsmen zealously support genuine conservation and will fiercely fight the encroachment of phony "environmentalists" who fail to understand its real meaning. It is, I believe, the hard-core camp organizations which have largely influenced the evolution of Penn's Woods as the bastion of sound conservation and wildlife management. Though not an organized association, they seem to speak as one voice when their way of life is threatened.

The uninitiated may glean some understanding from a glimpse at the past and present of one such permanent camp. Now entering its 40th year of existence, it is presently being enjoyed by three generations. Like most groups, it has a name: the "Hillside

Gophers Rod and Gun Club."

If there is anything unique about the Hillside Gophers Club, it is to be found in its origins. It was formed by a group of 18-year-olds fresh out of high school and buffeted by the Great Depression. Having experienced the satisfaction of building a log shack as a home base for teenage activities, they wanted a permanent bond for the future. (The survivors of that group still are the nucleus of the club.) Tales told by older tongues sparked the idea of leasing a cabin site from the state and building upon it.

Choosing a site became suddenly easy. State Forester Wilson Ard loaded four eager young men into his Model A Ford and showed them several potential locations. Three grouse and five deer scattered from one site. That settled it!

Closer inspection revealed a corduroy road which afforded entrance but provided a little privacy. At some point, the site had been a trimming point for an extensive logging operation. In the early part of the 20th Century, the entire area had been clearcut, the logs shipped out by rail, and the land subsequently sold to the state.

Building a cabin which would pass inspection was not so easy. The year of our Lord 1936 was more a time of survival than a time for frills. However, a dollar here and a dollar there eventually grew to a sum which gave rise to hope. And so a start was made: clearing a site and setting a foundation.

It was then that some young fellows had their eyes opened to the generous spirit of older hunters. In hindsight, I believe it was a real shot in the arm for a lot of good people to learn that a newer generation had enough spunk to buck the Depression against formidable

odds. At any rate, almost like magic, we became the beneficiaries of good used window frames, doors, cinder blocks, chimney bricks, nails, screws, and other miscellaneous building materials. One man even provided 500 board feet of choice pine siding. Another sold us asbestos shingles for half price, then furnished a carpenter to tack them on! Not least was the volunteer skilled labor which framed in the whole job over one weekend. Almost unbelievably, we staged our first deer hunt from camp in 1937. It's still humbling to think about it!

In Bald Eagle

The two-story "cabin" which is headquarters for the Hillside Gophers is located in Bald Eagle State Forest, Centre County. It is surrounded by typical, rugged Pennsylvania ridges rising steeply from thickly overgrown creek beds. Medium to large second growth timber finds tenuous rooting among millions of rocks deposited by some ancient deluge. Fragrant native hemlocks, graceful white pines, and lofty oaks dominate the scene. Rhododendron, laurel, and a variety of other plants, bushes, and vines grow thickly enough to provide excellent cover and a modicum of browse for the game population.

An overnight snowfall can reveal the tracks of everything from squirrels, chipmunks, and mice to deer, bear, turkey, and grouse where one would swear no game exists during the summer months. The area is at once beautiful to behold and a challenge to traverse. God created it more for wild creatures than for human beings. Maybe that's a clue to why we love it so much.

The yearly cycle of activity nominally starts in the middle of April with the advent of trout season (but really has no beginning or end). Native trout are not plentiful but there are enough to make it interesting. Tropical storm Agnes enhanced the supply by creating larger pools which permitted larger growth. Last year, a 19½ inch brown trout blew our minds by getting himself caught!

In recent years, turkeys have made an appearance, providing a new excuse

for a trek in May. What a fine combination to hunt gobblers in the morning and fish for trout in the evening! All that, plus the savoring of mountain flowers in bloom and the observation of the spring mating rites of the wildlife.

From Memorial Day to Labor Day, scarcely a week goes by without a family outing of some kind. Picnicking, steak fries, clambakes, and weiner roasts are enjoyed by all ages. Scout groups and Sunday School classes often use the facilities as well. Mountain blueberries are harvested by the bucketfull. Best of all is the chance to just sit under a big, old pine tree, be quiet and watch the birds and animals at work and at play. Of almost equal pleasure is the simple joy of drinking cold, sparkling, pure water from a small stream hurrying on its way.

In September and October, squirrels begin to store nuts and club members cut vast stores of firewood against the winter's needs. It's a time, too, when nature dons her most beautiful attire for our enjoyment. What better place is there to view fall's splendor than in Penn's Woods?

More recently, fall has also brought with it some of the greatest football in the nation at Penn State. Any home game weekend is sure to find someone using the cabin as a way station to or from State College. How lucky can you get?

Suddenly, it's late October and time to hunt squirrel, grouse, and turkey. And in the process, we begin to tone up the muscles for deer season and sharpen our senses for observing the wily whitetail. Small game season is great sport, but in many ways it is only a prelude to the main event.

Final practice is always scheduled for the weekend before Thanksgiving. When the one-day bear season is open, out come the rifles and warm clothing. Sometimes also the bears. Several have been bagged in the vicinity in recent years.

Sightings of beautiful blacks have been fairly frequent recently, adding a new dimension to the thrills of camp life. One startled young man stared eye-to-eye at an equally startled bruin not too long ago. It's hard to say what

he bear thought as he galloped away, but the camp log speaks eloquently of the man's reaction.

At long last, then, comes the major event—the opening of deer camp. The faces change as years roll on (both literally and figuratively). But always there is the same thrill of anticipation, the careful preparation, the tall tales, and the happy memories of seasons past. Only one who has been a part of it can really know what it means. It's the magic potion which brings together the young and the old; residents and former residents; teachers and pupils; the sleep talkers and the snorers; the strong and the weak; the winners and the losers—all with a common bond of fellowship and purpose.

The Hillside Gophers are not renowned for their hunting prowess. In fact, most could shoot more deer within a few minutes of home than in cabin country. The growth of tall trees and the lack of browse have caused the deer population to shrink in our area. But it doesn't seem to matter much. What does matter to us is to be present, to participate, and to climax a well planned drive with someone getting a good look at a white-tailed deer. The name of the game is not so much to make a kill as to accurately predict where the sighting will occur. Enough kills are made to keep it interesting, but one suspects that the excitement of making them is often offset by a certain feeling of regret that the buck didn't quite make it through the season. Nonetheless, the recounting of tales of success and the number of antlers mounted over the fireplace are ample testimony to the maxim that "winning beats the heck out of losing."

It used to be that our camp closed down from deer season to trout season. But youth and modern inventions have changed all that. Snowmobiling over formerly impassable roads is now an acceptable means of access. Thus, we now have truly year-long use of our facilities for those who wish it.

Parenthetically, there is another aspect of organized camps which may

not be readily perceived as an asset to Pennsylvania. That is, the tie which binds former Pennsylvanians to the state. Once having been an active, local participant, the lure of returning to home country is irresistible.

It would be presumptuous, of course, to believe that every permanent camp in Pennsylvania is like the Hillside Gophers. In fact, each is undoubtedly different in some way. But surely there is a thread of comparability. If so, then it would seem a good guess that that thread is the love of the great outdoors of Pennsylvania and the joy of sharing it with others. At least it's reason enough to hope that the time will never come when permanent camps are rare in Pennsylvania. That would be a sad day.

A Mystique

There is a mystique about them which transcends the individual. Born through joint enterprise and maintained by joint effort, camp organizations will survive in the same fashion. Diverse generations melded through common interests and common experience will help to assure that their tradition will still exist for Pennsylvania hunters in a future which will need all the help it can get. To me, it is reassuring that Hillside Gophers range in age from one to 80, male and female, deer hunters from 14 to 74, and that the family is still growing. (One transplanted Pennsylvanian has even founded a Hillside Gophers West in Arizona!) It is even more encouraging to know that our Rod and Gun Club is only one of many.

Oh yes, in case you're curious, a "hillside gopher" is an animal indigeneous to the mountain ridges of Centre County. Its legs are shorter on one side than on the other. Hillside gophers seldom come down the ridges as they must go all the way around the mountain to get on top again. One such creature was sighted by a gullible visitor while our camp was being built. That historic event christened the Hillside Gophers Rod and Gun Club.

Returning Home

By Todd Addis, V.M.D.

IT IS NOT unusual on a thawing wintry day to take one's foxhounds out for a little exercise and find yourself completely out of your familiar hunting territory and in the fields long past your normal quitting time. But some days are longer than others. Let me tell you about one . . .

Having faced many blistering cold weekends last winter, I was developing cabin fever. I wanted to get out with the hounds and again to listen and watch this pack of 50 Penn-Marydel foxhounds meticulously work the line of a native red fox. One weekend in January, it warmed up just enough for the scent to rise and the snow to soften on top. My wife, who is always ready to tag along, and a few neighbors, who happened to be home, came over to gather for an 11 a.m. meet.

I knew there was one small vixen in the area. I had observed her tracks in the snow around a feeding station where I often throw meat scraps just to keep such foxes close to their coverts. The hounds quickly sized up the situation when they saw me appear at the stable in boots and breeches. Their indoor benches being stationed in the corner of the stable makes it easy for them to watch every move that is made. They really broke into their loud yodel when I began saddling the big chestnut I bought from New Holland Sales during the summer.

The hounds soon settled down and began taking positions at the kennel gate. It took two or three hard shoves to back them up far enough to open the in-swinging gate, and then a quick back-up maneuver to get out of the way. It is obviously impossible for a pack of hounds six dogs abreast and

three rows high to get through one narrow gate simultaneously, but they did it! But they all quieted down and got right to business by the time I swung my leg over the saddle. I headed directly for the hill behind my small farm.

After hunting for about half an hour through a thick rock- and log-laden woods, the hounds began to collect around a deer carcass. A few cracks of the whip and several shouted orders dislodged them, and the hunt continued. After maneuvering only a few hundred feet, Shiner, one of my best cold-trailing hounds, gave tongue to an old track. When one foxhunter brags to another about his hounds' ability to cold trail, he says, "That fox must have been around here three or four days ago." But this fox probably was eating on the deer carcass only a few hours earlier. A few more old hounds joined in and began picking at the line little by little.

A Funny Tingle

Suddenly the younger hounds, who had little patience for dragging inch by inch on the old track, jumped their fox hot about 50 yards up in the rocky gully. MacNamara's band could not have made louder music. If I had hair on my back, it would have stood on end, but all that happened was a funny tingle that raced up and down my spine. I instinctively, but needlessly, harked a few lingering hounds. They did not pay a bit of attention to me. All they could hear was the magnetic roar of the main pack.

It did not take but a few minutes to circle the east end of the hill. The pack broke cover and headed west



Mr. Rovers

Copyright 1920
by Mr. Rovers

toward the State Game Lands bordering Elverson. At this point I had the horse in high gear and was closely followed by my wife Happy, Boots Fehr from Limekiln Hunt, and 72-year-old Jake Moyer. Several other coffee klatchers, who "just knew the fox never leaves the hill," were left on the hill, wondering whatever became of the "unspeakable chasing the inedible."

I had to make an instantaneous decision which path to take in order to keep track of the hard-running hounds. The pack entered the State Game Lands on a steep, rocky east slope, and I thought it was logical for the fox to continue on the north face of the mountain. The four of us galloped hard up the gravel road to the mountaintop, expecting to intercept them, but when we arrived we could hear only a faint sound of hounds over the loud snorting and breathing of the horses. At this point, I knew we were not running our sweet, obliging vixen, but a visiting dog fox from nobody knew where!

As we galloped off the north slope of the Game Land, we could hear the pack going through Pine Swamp and Deputy Game Protector Bill Handforth's farm. Bill and his daughters Carol and Susie doubtless

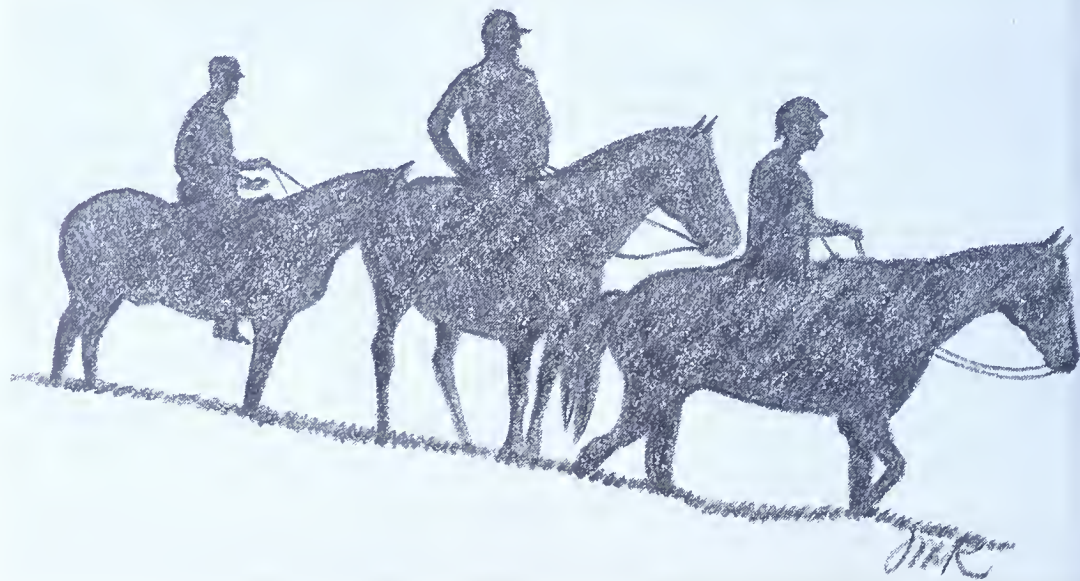
would have saddled up and joined us if they were home. I was sorry they weren't. We safely leveled out on Pine Swamp Road and began to close the gap—we thought. The hound music really began to swell again as the pack started to climb toward Hopewell Federal Park.

After another fifteen minutes we reached a knob overlooking all of Hopewell Park and the adjacent valley. As we were pausing for the horses to catch their breath and grasping for some sounds of baying hounds, a government-looking car arrived. The driver, whom I recognized as the park superintendant, politely informed us that no hunting was allowed on this part of the park. I assured him that we would "whip off" as soon as we could intercept the dogs.

The four of us then rode the edge of a hayfield until we came to the well-known Horseshoe Trail. We followed the trail south for a couple of miles until we met another horseback rider. His answers to our questions indicated the pack had continued north rather than bearing south to the home covert.

Pursuing the pack on horseback would mean ploughing through heavily wooded coverts with very rocky trails.

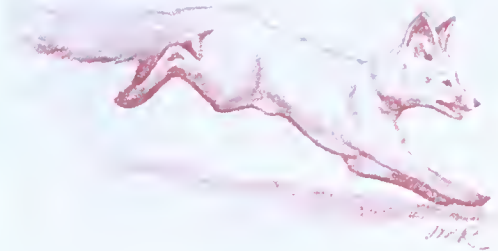
AFTER ANOTHER FIFTEEN MINUTES of riding, we reached a knob overlooking Hopewell Park. We paused for the horses to catch their breath.



This seemed unfair on our tired horses, so we decided to return to the barn and transfer to my pickup truck. By the time we got back with the horses and called a few other truck followers, at least two hours had elapsed.

After driving due north for eight miles, I located the hounds coming around Miller's Point which overlooks Douglassville. By this time, the pace that the pack maintained in the early going had slowed to a dog trot. The hounds crossed several roads and circled behind Scott's Run Lake. On several occasions we saw groups of six or eight deer moving away from the line of the fox. Thorough and timely discipline of young hounds when entering the pack sure pays off when such a large number of hounds are running in an area so full of deer. Can you imagine a pack of 50 hounds that was not deer-broken pursuing 75 deer in a dozen different directions? Chaos! It is tremendously satisfying to have hounds that don't chase deer all over the countryside.

By this time the sun was setting and the fox and hounds were heading toward the large and impenetrable Birdsboro watershed. I knew from a hunt several years ago that it was 10 miles around the block, with no lane, cart road, powerline or field that I could get in to break off the running hounds. So we raced around to the White Bear-Kulptown road and positioned ourselves to stop the hounds. We reacted too quickly, because we unknowingly turned the fox back. He was determined to get back to his home covert, so he made a large circle behind



Scott's Run Lake again and crossed a couple of hundred yards behind us. I have sometimes wondered how fast I could back up my pickup. If a speedometer registered in reverse, I am sure mine would have reached minus 35 m.p.h. at this time. In spite of a crink in the neck and stretched eyeball muscles, we bounced out just in time to get the last two-thirds of the pack.

We circled the watershed several times, listening for the remaining toned-down pack, before a unanimous decision was made to take the other hounds home and fill our gas tanks. At the house, every snack we could find was removed from the bread box and refrigerator. By the time we got back to Mr. Red Fox's home territory, our stomachs had stopped growling.

After three more hours of stopping, listening, starting, stopping, listening and maneuvering, we finally intercepted the remaining pack 15 miles from the starting point when they came close to the Creek Road north of White Bear. With the dogs in the back of the truck, we headed home, tired but satisfied. Some days it seems you can't get a hunt started and some days you can't get it stopped.

St. George and the Crocodile

The dragons in many European myths are thought to be based on the Nile Crocodile, and a few churches in France and Switzerland actually feature stuffed crocodiles as dragon remains.

The Old Guys

The tuatara is the sole living representative of a once widespread group of "beakheaded" reptiles. Full-grown tuataras have been known to live over 75 years, making them among the longest-lived animals in the world.



BEFORE RETIRING FOR THE NIGHT, I baited the trap with peanut butter (children and mice have much in common), and set it where the pie had been the night before.

A Housewife's Trapping Experience

by Mary Miller

WHEN OUTDOOR men congregate they talk (brag?) of their experiences. If they are hunters, they relive the hunt. If they are trappers, they tell of their attempts to outwit their prey. I have often listened and wondered if any of them realize how much trapping we farm wives do.

I live in an old farmhouse which was built with the intention of keeping any animal larger than a calf outside. I need never check the weathervane to see which way the wind is blowing; I just look to see which of my drapes are blowing. If it is the ones on the south side of the house, I know it is a south wind. If it is accompanied by rain, then I better hunt my drip buckets for I know that the windows will drip. Every spring and fall we are invaded by mice. Either they are seeking cooler quarters for the summer or warmer ones for the winter. This necessitates that I get out

my traps and begin my trapping season.

I am fortunate that there is no closed season on my game and that no frozen fingers or chilled nose plague me. It can all be done in the shelter of my own house. Last fall was a particularly busy one. I first became aware that we had unwelcome visitors when a homemade pumpkin pie on the cabinet developed unusual decorations one night. Before retiring the following night, I baited the trap with peanut butter (children and mice have much in common), and set it where the pie had been the night before. In the morning I was not surprised to see the bait was gone, but the trap was empty. Trappers would call this a trial run.

During the day I caught a glimpse of the little creature as he dashed from under my automatic washer to safety behind the refrigerator. That night I placed the trap in his runway, baited

with some peanut butter. In less than thirty minutes I heard a click and my heart skipped a beat. I knew I was a successful trapper.

There is one thing I really dislike, however, and that is reaping the rewards of a successful set. I thought that if I went to bed, when my husband came home from working his night shift he would see my catch and dispose of it. At 11:30 I retired to my upstairs bedroom but was dismayed to hear noises from the lower level. I know there was no one in the house but me; however, I decided to read awhile longer. The noise abated and I turned off the light. The noise resumed and I went back to reading. About 12:30 I finally fell asleep with the noise still unsolved. My husband would be home in about two hours, I thought as I drifted off; help was on its way.

The next sound I heard was my husband's, "Did you know you had a mouse in the trap?"

"No," I replied in my most surprised voice, "but I'm glad."

"Well, he isn't dead and he's dragging the trap around the kitchen."

Ugh. Much as I dislike mice, I do hate to think it suffered. At least I have started a successful season.

Two nights later when my husband came to bed he casually said, "Don't open the woodbox, I have a mouse penned in there." He wasn't planning to keep it, but saw it going in and shut the lid. In the morning he caught it. Now this wasn't really trapping but the results were the same. Surely this would be the end of the trapping for this year, I thought. I could put my trap away.

Saturday night we are entertaining guests with slides of our recent vacation. We had turned off the lights and a mouse apparently thought we had gone to bed. When we turned them on again, I saw him scurrying across the corner of the room to hide behind the organ.

"This is not fair," I declared. "Enough is enough! Dig out the traps, Mary, the season has just reopened."

Sunday morning I was triumphant; the mouse was firmly caught. I felt certain this was the last one but I reset

the trap in the same place, just in case.

Monday evening I went to the city on a shopping trip. Arriving home, I saw another mouse—not in the trap but beside it. I thought the trap must have killed him when it snapped. Now what should I do? I couldn't pick him up and I couldn't spend the remainder of the evening with him lying there. My husband has already gone to work. I eventually went out in the yard and picked up a stick, intending to gently push him out the door.

I prodded him lightly with the stick—then screamed. He wasn't dead, and he immediately assumed the posture of a mouse about to do a four-minute mile. Now I was in real trouble, I knew I couldn't kill him, but I didn't want him to escape. He still seemed dazed. He stared at me but made no effort to run. If he did, I would also. In the opposite direction.

One of the items I had bought was packaged in a large carton. I dropped it over him. Now he was momentarily safe but if he regained his senses he could quickly chew his way out. On second thought, I concluded I could slide the box carefully across the floor and out the door. Now I had him under the box and penned between the inner door and the storm door (this is a stone house and the doors are about a foot apart). Should he escape the box, he couldn't escape the area. I taped a note on the door to tell my husband of the big game lurking behind it and went to bed.

In the morning all is clear again. The mouse has been dispatched and I *know* this is the last one for the year. We are *never* troubled with more than

The Game Law
Violator Is
Stealing From You.
Turn Him In!

three in one season—years of experience have proved that.

Two nights later I was awakened at 3 in the morning with the sounds of a mighty arpeggio on the organ. I drowsily wondered just what possessed my husband to play the organ at that hour. I soon learned we had still another mouse behind the organ and my husband—and fellow trapper—thought the loud music would scare him out into the open where he could be caught. This time I tied some bacon on the trap and set it again. Once more

I was successful and another mouse was gone.

Now I hang up the trap again and return to being just a housewife. I do think, though, that I should be permitted to brag a little bit about my successful trapping season. Unfortunately, whenever I mention “mouse” at the card club, everyone shudders and says, “Let’s talk about something else.” When is it going to be my turn to join the ranks of the mighty mouse trappers and tell the tall tales all hunters and trappers enjoy so much?

The Long and Short of It

Snakes range in size from five inches to thirty feet long. Some are no heavier than a pencil; others weigh as much as 300 pounds.

Hypnotic

Snakes’ eyes, which remain permanently open behind a clear covering called the spectacle, create an unblinking stare. This stare may account for many of the fears and superstitions these animals have inspired throughout the ages.

Don’t Get Tangled

Being legless enhances rather than hinders a snake’s locomotion, especially in brush or over rough ground.

Available Publications

The following publications are available from the Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120. Prices quoted include taxes, handling and postage.

GONE FOR THE DAY, by Ned Smith. All of the outstanding columns and artwork which appeared under this title in *GAME NEWS* during a four-year period. Delightful reading for everyone. 216 pp., \$2.50.

PENNSYLVANIA BIRDLIFE by Leo Luttringer. All about Pennsylvania’s birds—what makes them tick, where to find them, how to identify them, what to feed them, how to conserve them. Color charts. 128 pp., \$2.00.

PENNSYLVANIA TRAPPING AND PREDATOR CONTROL METHODS, by Paul Failor, gives detailed information on all phases of these activities—sets, baits, etc. 96 pp., \$1.

GAME NEWS BINDERS, black vinyl with gold lettering. Will hold 12 issues, keep them neat and clean. Excellent as gifts. \$2.50.

GOOD OLD BILL

By John D. Mitchell

Director of Advertising, Remington Arms Company

IF YOU'VE been a hunter for more than a few years and are finding it difficult to kneel in a duck skiff or crack brush in a woodcock cover . . . I'll bet this has happened to you.

Remember the time you met a group of hunters somewhere and, during the introductions, a friend of yours said, "I want you to meet my partner, Bill Jones, the best poacher in the country," (not the worst but the best). So you all laughed at good old Bill the poacher.

Later on you may have been surprised to find that Bill was president of the bank or maybe chairman of the school board. But we all laughed, didn't we? The very idea of old Bill outwitting the game warden through native wood-sense and American ingenuity and then sneaking home with over-the-limit or out-of-season fish and game seemed to tickle us all. It really did, didn't it?

But now it looks as though good old Bill is going out of style. In fact, there's a bumper sticker around that says—"The Game Law Violator is a Thief." How about that? No more sentimental thoughts about brave and daring Robin Hood poaching the King's deer with all his merry men. No more smiling, head-shaking reaction to old Bill's trick of hiding extra ducks in a muskrat house, undersized trout down a boot leg or quail in a hub cap. No more of that. Bill is now a crook and a thief and, if he keeps it up, someone should audit his books at the bank. And, in fact, if Bill is caught these days, he stands a good chance of losing his car, his gun and maybe going to jail on top of it all.

What caused this change in attitude towards the game law violator? First, I think a lot of Bill's friends eventually grew up and realized that the rugged independent spirit of the frontier, with its disrespect for any laws that hampered the individual to do as he damn well pleased afield, had to give way to a

concern for others and their fair share of the fish and the game. And maybe one day, when Bill was again introduced as a wise old poacher, some hunter had the guts to say "Tell me, Mr. Jones, do you steal chickens, too?" I'd like to think that was the case . . . even though I never had the nerve to say it. But I think I would now . . . because the time has come.

The average hunter's view of the game warden has changed, too, over the years. I can remember when the very name "game warden" struck terror in my youthful heart. Not that I was necessarily guilty, but there was something menacing about the very name "warden." It was always the *warden* that led my cowboy movie hero, Tom Mix, in a slow procession to the gallows—just before the Governor's pardon arrived and justice triumphed. And if the *warden* was in the woods or out in the marsh, he must have been hunting for someone to arrest, handcuff and throw in jail, in spite of mother's pleas. No other reason.

But now that we're older and our kids have followed us in the woods and along the streams, we call him a "conservation officer," and that's what he really is. His role of protector, educator and all-around friend of the hunter and fisherman hasn't really changed. What has changed is the way we see him and his long, devoted hours to a common cause of wise wildlife management . . . so that all of us can continue to enjoy the great out-of-doors.

It's always easy to talk about the good old days, but the passing of good old Bill "the poacher" as a folk hero is regretted by none and applauded by all. Let's hope we can keep it that way.

*Provided as a public service by
The National Shooting
Sports Foundation*



I'D EVEN SETTLE FOR A "3" DOG!

By Bernie Fuller

I SHOULD HAVE known what kind of a day it was going to be when my boot lace broke as I dressed in the dim light of dawn, and surely the day should have been foretold when the door slammed and awoke my wife, the coffee maker wouldn't perk, and Sarge heard me trying to quietly load Sport and set up a howl that could be heard all over the neighborhood. I didn't take the warning signals seriously; instead, I set out to give the Brittany his first day afield after the B-52 of upland game birds, the ringnecked pheasant.

Now, Sport isn't what you'd call the most finished of bird dogs. You might even say he is a bit behind schedule in his development. Like a lot of other delinquents, he's had all the advantages—the best of training, food and shelter all his life. It's just that, more often than not, he might, without warning, decide he's the one who knows all the answers and begin hunting *his* way . . . After all, bird dogs know more than humans when it comes to hunting, right? Nevertheless, Sport's last few training sessions indicated he might be gaining a little sense. Not enough to fully convince either my wife or me, but we kept telling each other he was merely a late developer.

Most hunters would not spend any more time on a dog like Sport, but would most likely give him to the first unsuspecting guy who came along looking for a "bird dog." On the other hand, there's an old saying that every man is entitled to ruin one dog in his lifetime, so why not try to undo the damage that might have been done?

Stubborn? Yes.

Softhearted? Yes.

My dog training philosophy is that behavior problems can be reversed with a lot of hard work and time involvement. Besides, who can resist that

look of joy on a dog's face the first time he does something right? Not me!

Sport was about to be tested on his ability. The results would determine whether he'd be one of my hunting companions or the house dog. You'd understand my consternation with two-year old Sport if you could have seen my other Brittany, Sergeant Major, perform at the age of five months . . . pointing, steady to flush and shot, and retrieving like a pro.

When we reached our favorite bird area, the weather was beautiful, there wasn't another hunter in sight, and Sport seemed anxious to get out . . . hopefully, to hunt.

"Well, Buddy, what say we try to find some birds for the freezer," I said. "Maybe, just maybe, we can overcome the black cloud that's been hanging over our heads since we got up this morning." I picked up the shells that had fallen all over the ground when I opened the tailgate of the pickup. Sport, of course, understood every word I said, for he gazed soulfully skyward . . . I wasn't sure, though, whether he was looking for birds or the dark cloud.

Bolt of Lightning

I unleashed him and he took off like a bolt of lightning. "What a breakaway for a field trial," I muttered. "But, this isn't a field trial, we're supposed to be hunting."

Just as I was getting ready to blow out my brains on the whistle, he came back, glanced my way briefly, and set out to methodically work the fields, casting first to the left and then to the right as if he'd been doing it all his life.

In short order, he froze into what looked like a point. I'm never too sure with Sport, because this early in the hunt he usually approaches a "ground



NOW, I'M NOT WHAT YOU'D CALL an expert wing shot—I used to have the same problem hitting tanks—therefore, I didn't center the rooster and he hit the ground running.

point" in that manner. He held the posture for what seemed like an eternity until I caught up with him. Walking around in front of him, I flushed a cock pheasant dressed in the royal finery of its oriental ancestors. Usually about this time Sport would break point and decide to collect the bird himself. Not this time. Glancing down, I saw him still rock solid.

Surely he'd break when I shot the bird, I thought.

Not a chance. He stayed in position.

Hit Running

Now, I'm not what you'd call an expert wing shot when it comes to pheasant—I used to have the same problem hitting tanks, too—therefore, I didn't center the rooster hard enough to kill. He hit the ground running.

"Get the bird, Sport." Now he broke and started after the ringneck, cutting it off and holding it until it could be dispatched and put in the game bag.

If you've ever hunted with your own dog, I don't have to tell you about the lump that was in my throat watching this dog perform. And perform he did, all day long, just as he was meant to. Clown that he is, he had to show me again, in a new way, exactly who was boss in this hunting business. He responded to my hand signals, paid at-

tention to the whistle, pointed his birds and let me do the "catching," and wrapped them up with a classic retrieve to hand.

How had he performed previously? He wouldn't pay any attention in the field, hunted his own way, flash-pointed the birds before going in, either catching them on the ground or flushing them out of range.

What, then, made the difference? I guess you could put it down to the fact that he had finally reached a point where he had put it all together. Even on his worst days in the field he had always done one or two things right . . . he just hadn't done them all right at any one time.

Putting it all together is part of it, but not the whole story. The biggest thing that contributed to his polish was a proper evaluation of his abilities and potential from a purely objective standpoint. Such an evaluation enabled me to concentrate on those points in his training program that were deficient and capitalize on those good points he displayed.

Some time ago, I decided it was difficult to evaluate the performance of a dog without some sort of checklist. This conclusion was reached after a careful analysis of the methods we were using to rate a dog in the field. If we could ef-

fectively use an "efficiency report" system to rate the performance and potential of junior officers in the Army, I wondered, why couldn't we come up with a system that would take into account all of the factors that go into making a good bird dog? From this question evolved the "Hunting Dog Evaluation Checklist," a simple form that considers weather conditions, field conditions, and the key points to look for in a bird dog.

The extensive information concerning weather and field conditions is included because it is difficult to evaluate the performance of any dog on his native ability alone. There are days when a dog cannot perform to his true level; they have "off" days just like humans. Generally, on such days, some factor in the environment has had an effect on the scenting conditions, the dog's physical ability, or the birds' willingness to cooperate. Such things as ragweed pollen affecting the dog's nose,

weather conditions making it difficult for the dog to pick up scent, or rain holding the birds tight and unable to fly properly can influence the outcome of the hunt. Taking these factors into account and evaluating the dog's performance under the conditions present on several days will give you an idea of when the dog is performing at his peak and when he can be expected to put in only a mediocre performance. It will also give you a better idea of when or when not to blame the dog.

While the areas of evaluation are somewhat subjective, and are based in the main on the evaluator's experience, it is probably the most efficient and practical way to keep check on a dog's progress in training and know what his potential is.

Because of this system of evaluation, I was able to see that Sport would make a bird dog after all. And considering my hunting ability, you can see why I'd even settle for a "3" dog.

Hunting Dog Evaluation Checklist

Field Conditions

Date: _____ Time: _____
Weather: Temp _____ Barometer _____ Sunny _____ Cloudy _____ Rainy _____
Frost _____ Snow _____ Windy _____
Cover: Heavy _____ Moderate _____ Light _____ Corn _____ Seed Feed _____
Weeds _____
Game: Pheasant _____ Quail _____ Chukar Partridge _____ Pigeons _____ Run-
ning _____ Flying _____ Holding _____
.....

Dog Performance/Potential

Natural Ability: Game Interest _____ Courage _____ Search Pattern _____ Speed
_____ Close Cast _____ Long Cast _____ Gun Shyness _____
Nose: Air Scenting _____ Ground Scenting _____ Game Located by Scent _____
Pointing: Staunchness _____ Steady to Flush _____ Steady to Shot _____ Back-
ing _____ Bumping Birds _____ Blinking Birds _____ Cut-off Running
Bird _____
Retrieving: Willingness _____ Speed _____ Deliver to Hand _____
Mouth: Hard/Soft _____ Game Damage _____
Obedience: "Heel" _____ "Whoa" _____ "Come" _____ Reaction to Leash _____
Response to Command/Signal _____
Physical Condition: Weight _____ Muscle Tone _____ Wind _____ Eyes _____ Ears
_____ Feet/pads _____ Legs _____ Hips _____

NOTE: Scoring in this section is based on: 1-Poor, 2-Fair, 3-Average, 4-Above Average, 5-Excellent
.....

Overall Evaluation of Dog's Performance _____
Areas for Improvement and More Training _____



BRADFORD COUNTY camp of the late Howard Swackhamer, (4th from left), in the '40s. With him are Lyle Coorley, Vern Griffis, Dan Rinebold, Sid Cooley, Burton Kingsley, Malcolm Neidey and Harry Kingsley. Below, Larry Williams of Mount Joy hunting in York County in 1920.



ABOVE, 1930 Be...
Andy Young, an...
Wayne County ra...

Days



MANOR OUTING CLUB members S. E. Heasley, C. R. Heasley, H. W. Kooser and Billy Thompson, front, and B. F. Cox, A. J. Lomicka, and S. R. Smith, standing, after 1931 hunt. Photo from Cox and Brice and George Heasley. Above right, Frank Holousky, Mike Baylock and Joe Harancher, Clearfield County, 1920.



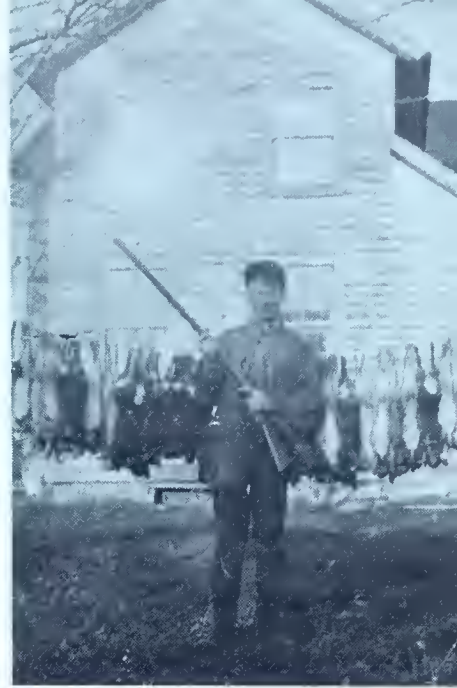
BOB WOR
in 1920. B...
hunters H...
Miller, Ma...
Ober, Norr...
S. Nauman





unt. Bill Harner, Frank Hildebrand, Harry Stoner,
look part. Right, Al Drasher, of Scranton, with
him and three companions in 1920 hunt.

f Gore



DALE SPRANKLE sent in photo of 1930
Forest County hunt, above. Shown are
Clyde Elkin, Clair Sprankle, Kemp Elkin,
George Wilson and Dick Sprankle.
Streamer Beck and Bud Sprankle. Below,
Grim brothers—Luther, Quedar, Martin and
Howard—of Red Lion area with deer taken
in Clinton County, 1942.

bove, Philadelphia, with rabbits taken
otter County deer hunt by Manheim
Monroe Ober, Stan Ruhl, Graybill
o Gible, standing; kneeling, E. G.
er Haldeman, E. B. Loercher, J. Miller,
nt, M. K. Ober and Lloyd Risser.





FIELD NOTES



Indigestion?

MERCER COUNTY — After experiencing another first day of general small game season, I would like to make the following observation. A great many individuals could stay out of trouble by simply reading the "Digest of Pennsylvania Hunting and Trapping Regulations." Just about every violation that is picked up could have been averted if someone had taken a few extra minutes to digest the Digest!—DGP Frank S. Zalik, Mercer.



Coming Thing

LEBANON COUNTY — A gentleman called the other day inquiring about a good place to hunt turkey locally. I described an area we had just stocked. He said he liked to hunt very much but he did not drive and wondered if we would provide bus service to this Game Lands for him to hunt if he bought a hunting license. This may seem farfetched right now, but the way things have been lately, this service may not be too far in the future. Anyway, I'm glad I can drive a bus.—DGP R. Sutherland, Campbelltown.

Real Backbone

RLSC — After four weeks of field training, I have strongly confirmed my belief that the law enforcement responsibilities of a game protector would have to be sorely neglected if it were not for his deputy force. They not only donate their time and vehicles when they could be out hunting, but also pay for their own uniforms, firearms and radios. These men are dedicated individuals from all walks of life who are concerned about the future of hunting and are willing to do something about it. Besides law enforcement activities, many deputies aid in hunter education courses and public relation programs, often with no monetary compensation. We owe a debt of thanks to these men.—Trainee Steve Gehringer.

Keep Those Calls Comin'

MERCER COUNTY — The SPORT program must be making an impression on the public in my district. In my nine years I have never had so many reports of illegal activity as I have had this year. Everything—early and late hunting, closed season hunting, and illegal deer killing. Many thanks to those who are trying to help protect our sport.—DGP Barry K. Ray, Greenville.

Asked the Wrong Guy

VENANGO COUNTY — Sometimes I wonder if we are reaching the public with our information/education programs. A local resident, who shall remain nameless, called the office to request the name of a fur buyer as he wanted to sell a raccoon pelt that he got the night before—ten days prior to opening day for raccoon hunting.—DGP Leo C. Yahner, Franklin.

Hope Winter's Mild

PIKE COUNTY — The wildlife food situation in Pike County this year is poor, primarily due to this summer's infestation of gypsy moths. Wildlife here relies heavily on acorns for winter food, but this year there are no acorns. The county was at least 75 percent defoliated in June; finally the trees re-leaved but were not able to produce their usual valuable mast. What turkeys and deer will find to eat in February is anyone's guess. It just shows how devastating an introduced species can be to an area's ecology. If we get no relief from the gypsy moth next year, we might have an overwhelming problem.—DGP Robert D. Buss, Shohola.

With Stuffing?

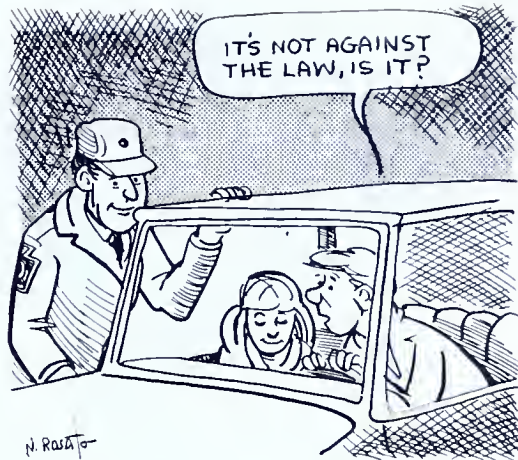
WASHINGTON COUNTY — Recently Deputy Wilbur Lynam gave me information that led to the arrest of an individual for shooting a turkey vulture. When the fellow was asked what he was going to do with it, he replied, "Eat it." Different strokes for different folks.—DGP John G. Sickenberger, Houston.

Did They Have Passports?

ALLEGHENY COUNTY — Jimmy Cole of Jeannette told me the other day that while he was archery hunting he observed three grouse walking in a row followed by a squirrel. Of course, when early small game season began, Jimmy arrived with his shotgun and saw nothing. Maybe the grouse and the squirrel were leaving the country.—DGP S. E. Lockerman, Pittsburgh.

Into the Act

HUNTINGDON COUNTY — While we were on night patrol, an owl landed on a nearby electric pole and remained there as if helping us watch for violators. Maybe wildlife has become aware of our SPORT program and decided to adopt it themselves.—DGP Don Parr, Huntingdon.



Just Being Friendly

RLSC — While on my field training assignment in Clarion County with DGP Bowers, I have had some amusing experiences. One occurred while we were on night patrol in an area where some shots were fired after dark. Minutes after hearing the shots, we stopped a car coming along the only road from that area. Upon approaching the vehicle, I saw that it contained two visibly shaken occupants—a teenaged boy and girl. When questioned, the young man said he'd been only about a half mile up the road. I asked what he was doing in the area—parking? He hesitantly replied, "Oh, no, Officer! We weren't parking, we were just kissing a little."—Trainee C. H. May.

Problem Solver

NORTHUMBERLAND COUNTY — A young man was in the checkout line ahead of me in the store, and among his purchases were two mousetraps. It seems his wife had purchased a hamster and on the way home from the store it escaped and got into the air conditioning system of the vehicle. Seeing my uniform, the man asked if I could do something to solve his problem. My suggestion was to use a strong aerosol spray and perhaps the vapor would convince the animal to leave. But another shopper who overheard the conversation had the most foolproof remedy—sell the car!—DGP J. M. Kazakavage, Sunbury.

People Create Problems

RLSC — Recently DGP Dave Myers of Snyder County and I were called upon to handle a bear complaint. A city woman had a new home built in the mountains. She had bear around and fed them so visitors could watch them. However, one bear had become a nuisance and was now unwanted. So the woman wanted to kill the bear or have it live-trapped out. It is instances like this that result in the Game Commission's having more people problems than wildlife problems.—Trainee Clarence L. Covert.

Silver Lining

WYOMING COUNTY — The early snowstorm that hit this area in October caused widespread damage, not only to the electric and telephone lines, but also to the forests. Tops were broken off and limbs torn from many trees. Some were completely upset. Many apple trees on the Game Lands were severely damaged. But the old adage, "Every cloud has a silver lining," still holds true. This storm brought many tons of browse, not otherwise available, within reach of the deer.—LM George E. Sprankle, Tunkhannock.

Need Positive Reinforcement

MIFFLIN COUNTY — In the fall a game protector's phone never stops ringing. Many callers express opinions against Commission policies, such as the time of or the length of seasons; why not a bear season; where are the rabbits; and why don't we stock more pheasants? It gets to the point you are reluctant to answer the phone. However, shortly after the opening of the archery season one man called to say thanks. It seems this man was hunting for 2½ hours one day and saw 24 turkeys, 10 deer, three grouse, a tree clawed up by a bear, and numerous squirrels. That seemed to balance out all the other complaint calls and made answering the phone much easier for quite a while.—DGP Tim Marks, Belleville.

Three Guesses Why

CUMBERLAND COUNTY — It always amazes me that when we check hunters one group will moan and complain that there is no game around, then the next group, in almost the same area, will tell you how good the hunting is.—DGP Jim Filkosky, Mechanicsburg.

Slobs Strike Again

BRADFORD COUNTY — It has been practice in the past to open our gated road to Kellogg Fire Tower each year for the hunters. This year I opened it up for the spring turkey hunters and numerous drivers again took advantage. One gate was completely smashed from its posts, another was removed from the ground, another gate had the bolts removed. All I can say from here on is, "Have a nice walk!" No gates will be opened next season.—DGP Edward N. Gallew, Wyalusing.



New Birding Technique

CUMBERLAND COUNTY — I was recently talking to a group of hawk watchers on Waggoner's Gap during the annual hawk migration when a voice from above asked, "Hey, are you guys seeing any hawks?" I looked up in amazement. Directly above us was a young man, soaring along the ridge with the migrating hawks on a hang glider.—DGP Gene Utech, Boiling Springs.

Get The Right Card?

DAUPHIN COUNTY — Early one morning in June I received a call from the manager of the new Rea & Derick store in Millersburg. He told me that the night before the store's burglar alarm had been set off. I asked why he didn't call the State Police. He explained that the alarm had been triggered by a four-footed critter with a nauseous odor. I then understood why I was called. I was told the skunk was now hiding in the card section. Sure enough, under the section with the Father's Day cards I found the skunk. With the aid of some cat food, I coaxed him out of the store.—DGP G. W. Packard, Millersburg.



Very Sheer Dedication

CENTRE COUNTY — Recently, Trooper Guy Hocker of the Milesburg State Police Station received a call concerning an injured hawk along Rt. 80. Since the closest game protector was 25 miles away, Guy decided to handle the problem himself. When he located the bird, he found it in no mood to cooperate. During the chase through fields and fencerows, he encountered two unfriendly farm dogs. Guy finally recovered the hawk, but the one dog happened to recover a portion of Guy's pants. Guy said he was glad this didn't happen on a cold night.—DGP Lowell Snyder, Milesburg.

More Valuable—Dog or Friend

BLAIR COUNTY — On the opening day of general small game season, one of my deputies and Special Waterways Patrolman Beck observed three hunters. Not one of the hunters was wearing fluorescent orange. For that matter, none wore any bright colors. As the officers were checking them, one fellow's dog came up. It was wearing a fluorescent orange collar. We've all heard that the dog is man's best friend, but I think this is carrying it a little too far.—DGP Larry Harshaw, Hollidaysburg.

Unusual Hazard

ERIE COUNTY — Reverend Tom Jackson, a local minister and one of my hunter education instructors, recently related an incident that happened to him. As he entered his office the other day, he noticed a large spider web with something caught in it. At the time, he took it for a large bunch of leaves. But out of the corner of his eye he noticed a movement. A closer check revealed that it was not leaves but a goldfinch ensnared in the web. He removed the bird, which fluttered weakly for a moment, then settled down as he proceeded to remove the web. Disentangled finally, the bird shook itself and flew away.—DGP Russ Meyer, Fairview.

Turistas?

LANCASTER COUNTY — There is a saying that goes, "You can never say never about wildlife." This was proven to me on the opening day of waterfowl season. A flock of fulvous tree ducks landed in a decoy spread on the Susquehanna River at Washington Boro, and two of the birds were bagged. These ducks are native to South America and India and are sometimes seen in Florida and Texas but are not supposed to come as far north as Pennsylvania. Just when you think you have things down pat, something comes along to give you a pleasant surprise.—DGP John A. Shutter, Lancaster.

Bigger & Older Deer Showing Up

By Ted Godshall

Game biologists at the Pennsylvania Game Commission's deer check stations report that bucks examined early in the 1977 season are heavier and older than usual. Some of the antlers are more massive than usual too.

Pending a complete analysis of the data, it is believed that older deer were taken this season because of a poorer harvest rate in 1976, when miserable weather conditions curtailed usual hunting activity.

Deer not taken in 1976 showed up in 1977's harvest, and, of course, are one year older. The previous year's excellent acorn crop, along with the additional age factor, led to better antlers. Body weights are also higher. In southeastern Pennsylvania, where the Game Commission established a deer check station for the first time in 1977, the average body weight of bucks was an exceptionally heavy 119 pounds.

Biologists also report that the percentage of spike bucks in the total harvest is apparently lower. Even bucks coming out of some of the food-scarce counties in northcentral Pennsylvania had larger racks with more points. In isolated sections, some deer had big body frames but lower-than-



BRUCE GRANT, OF Harrisburg area, with his first whitetail, a Clinton Co. 8-pointer that weighed 140 lbs. It was bagged early on opening day of the recent season.

normal weights, an indication that the mother deer were well fed and the whitetails were able to find sufficient food as fawns, but that food supplies diminished as the bucks got older.

Youths Urged to Keep 1977 Licenses

Pennsylvania's young hunters are reminded to hang on to their 1977-78 hunting licenses, rather than throw them away at the end of the hunting

seasons. Youths under the age of 16 must show proof they have either completed a hunter education course or have held hunting licenses in Pennsylvania or another state in a prior year before being eligible to purchase hunting licenses. Some who have taken hunter education courses have lost their certification cards, and have difficulty proving their eligibility when they go to purchase new hunting licenses. If a youth has a previous hunting license, this is sufficient proof that he or she is eligible for another license.



Poachers Turned in by Alert Sportsman

Evidence that the Game Commission's SPORT program is paying dividends can be found in the arrest of eight Pittsburgh area men for poaching in Jefferson County. Fines in the case totaled \$5,200.

SPORT stands for Sportsmen Policing Our Ranks Together. Under the program, sportsmen are urged to report Game Law violations.

In the Jefferson County case, a sportsman noticed four deer hanging in a wooded section near a camp. The sportsman tipped off District Game

Protector Adam O'Hara, who, with Land Manager John Heider and Deputy Richard Bodenhorn, kept the area under surveillance until the eight Allegheny Countians came to pick up the whitetails.

The deer had been shot at night with 22-caliber rifles. The plans were to pretend that the deer had been taken with bows and arrows during the archery season.

In addition to the fines imposed, each of the eight hunters faces revocation of hunting license privileges.

PENNSYLVANIA FURS NET OVER \$6 MILLION FOR 1976-77

A tabulation released by the Game Commission shows that Pennsylvania-caught furbearers and predators sold to licensed raw fur dealers brought in \$6,117,095 during the 1976-77 season. This figure does not represent all furs taken from Pennsylvania animals; for example, those kept by the trapper or shipped out of state are not included.

Leading the list for number of pelts sold was muskrat (354,929) with raccoon a distant second (179,543) and weasel in last place with 1,294 sold. One possible reason is that weasel brought the lowest price per pelt, averaging \$.40. The average price on red fox was over 100 times greater—\$41.02. Gray fox brought an average of \$28.53. Skunks and opossums, a bit less glamorous, averaged \$1.58 and \$1.97 per pelt respectively.

Although almost twice as many muskrats as raccoons were sold, raccoon pelts brought in about \$800,000 more in total sales. This is still far less than the three-to-one ratio of raccoon vs. muskrat average prices; this discrepancy may be due to a higher rate of out-of-state sale for raccoon pelts. Total muskrat sales were \$1,960,213; raccoon, \$2,755,494.

Additional Lands for Public Hunting

The Pennsylvania Game Commission has approved the purchase of an additional 1,686 acres of land in the state to be used for public hunting, hiking, birdwatching, nature photography and other forms of outdoor recreation. The tracts are being acquired in Bedford, Luzerne, Mercer, Tioga and Venango Counties. Expenditure of \$543,360 for the land acquisitions has been authorized. Most of the monies will come from the Game Fund, which has as its primary source of income the sale of hunting licenses.

The Game Commission has approved the 1978-79 budget request for general operations and land acquisition in the amount of \$23,954,882. Also given approval by the commission is a capital budget request in the amount of \$3,269,000 to provide for the construction of a new Harrisburg headquarters office building, warehouse and training facility.



BEST TECHNIQUE FOR MANAGING POLETIMBER, blending wildlife and timber values, is moderate thinning when stand is 40–60 years old. Results of such treatment are shown above, 15 years after cutting.

POLETIMBER

For Wood and Wildlife —Ten Years of Study

By Steve Liscinsky

PGC Wildlife Biologist

Poletimber. What does that word mean to you? Anything? It should. Many people see it as a problem stage of forest growth, but it's there and it can't be ignored. Biologists and foresters have been trying to learn the best way of managing it for wildlife and timber production.

A *poletimber* stand is a fairly uniform group of trees in which most of the trees are between four and 12 inches in diameter at breast height (4½ feet above ground). These trees are usually 20–60 years old. If most of the trees in a stand are larger than poletimber, it is called sawtimber. If most are smaller, it is referred to as a sapling stand. These three categories are the most com-

monly used method of classifying stand ages by tree size.

Poletimber is significant for a number of reasons. To the hunter it is the least desirable place in the forest to hunt because it contains less food and cover for wildlife than any other stage of forest growth. It is too young to produce abundant seed crops and too old and shady to allow much brush to grow underneath. To the lumberman, poletimber is commercially unattractive because of the low profit margin and market demand. To the silviculturist, non-commercial treatments in poletimber are of questionable merit. And poletimber is important because in many areas there is too much of it.



That last sentence needs explanation. A forest, well balanced for a sustained yield of wood and wildlife, should contain approximately 50 percent sawtimber, 30 percent poletimber and 20 percent saplings. Putting it another way, ideally a forest that takes 100 years to mature should have one percent of its composition in every year class for perfect balance.

In Pennsylvania, due to natural processes and judicious management, total timber resources on a statewide basis are nearing this balance, according to the U.S. Forest Survey of 1965. This would be ideal if the pattern of distribution were uniform. But it's not. Some counties, for example, contain three times as much of their forest acreage in poletimber as others. The same holds true for some townships and smaller units of forest land.

So what can we do to create a better balance in the so-called "problem areas"—those places where there is too much poletimber? From a practical standpoint, not much can be done on most of these areas except wait until the trees are commercially attractive. Non-commercial treatments have to be justified on the basis of their value to wildlife and to the remaining trees. Although hard to prove, studies show that such benefits are possible. And that is the main purpose of this article: to relate the findings of one such study.

In 1960, the Game Commission, in cooperation with the U.S. Forest Service, began a browse and timber study near Brady Lake in Monroe County. A 40-year-old stand of northern hardwoods (maple, beech and birch) was "thinned" at five different intensities. Although it was too early at the end of a 10-year period (in 1971) to accurately determine the change in wood growth on the trees that were left

PROGRESS OF REGROWTH on Brady Lake "moderate thinning" area. In this case, 45 ft./acre of basal area (estimated cross-sectional area of trunk near its base) was left standing. Top: 1961, after cutting. Middle: summer, 1967. Bottom: Fall, 1971; note sapling growth. Final picture of series is on previous page.

standing, it was already possible to see dramatic changes in wildlife food and cover.

At Brady Lake, we found that the production of woody browse (that portion of the twigs removed eaten by animals such as deer during the dormant season) was directly related to the intensity of the cutting. Over the first five years, it varied from an average of 17 pounds per acre annually in the lightest cut, to 48 pounds per acre annually in the heaviest cut. After that, production slowed down a bit; during the tenth year, it was about one-half that of the first five-year average. The control area, where no cutting at all was done, never produced more than two pounds of woody browse per acre annually.

On the other hand, *use* of woody browse wasn't directly related to cutting intensity. It averaged about 50 percent in each treatment, decreasing from 76 to 33 percent during the first five years. Animals showed distinct preferences for certain species, with red maple and ash most preferred, and beech and aspen least.

The species of trees which grew up in the thinned stands were related to the intensity of the cutting, rather than to the kinds of trees which had made up the original stand. Lighter cuts favored regrowth of beech; heavier cuts, cherry and aspen.

Cutting intensity strongly affected the occurrence and density of some undergrowth plants, for example blackberry and goldenrod. But for most other herbaceous species, these changes were very subtle.

Cutting intensity profoundly affected tree seed production. By the tenth year, seed production in the three lightest cuts was as great as that in the control stand, and the weight of these

seeds exceeded the weight of woody browse produced in even the clearcut areas.

Diversity is the key to abundance of wildlife—diversity in type and height of vegetation. This is true not only because different kinds of wildlife have different habitat needs, but also because each species has different needs at different times of the year and at different stages of life. The minimum area needed to support a given number of animals depends on the amount of land on which all their needs can be met. Therefore, wildlife managers should try to provide all the requirements on the smallest area possible. (This will vary, of course, with the size of the animals and their specific requirements.)

Applying this principle to timber management, you need a continuous supply of trees in all age (or size) classes in order to have a sustained yield of wood and wildlife. Thinning, such as I've been discussing, is one way of enhancing one stage of forest growth for wildlife, while at the same time improving the market value of the remaining trees.

Based on the results of the Brady Lake study so far, we can make some recommendations for managing northern hardwood poletimber stands for maximum benefits to wood and wildlife:

1. *At stand age 40 to 60 years, fell the smaller and poor quality trees—a moderate thinning.*

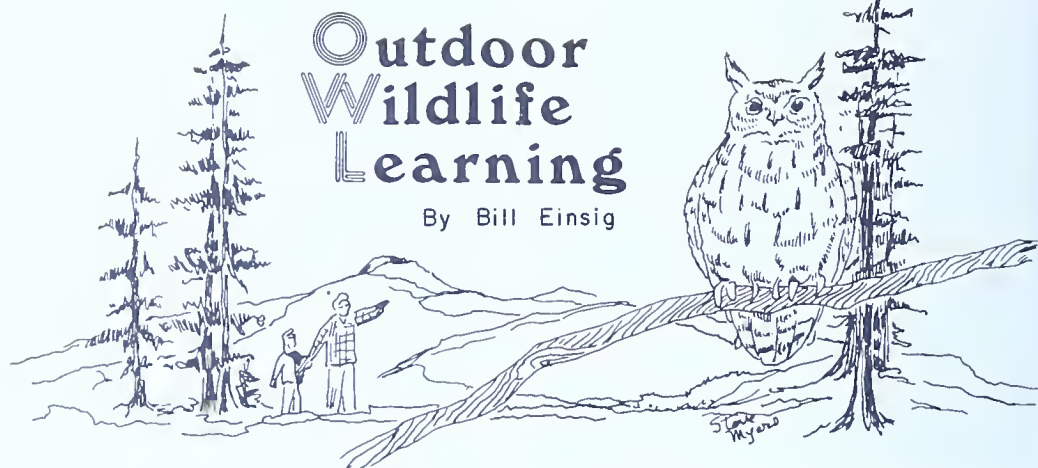
2. *At age 70 to 90 years, make a light sawlog cutting.*

3. *At age 100 to 120, or 10 years past maturity, clearcut the stand.*

A contribution of Federal Aid to Wildlife Restoration Project W-48-R, and Final Report of Work Plan 3, Job No. 1: *Cutting Intensity Study in a Pole Stage Northern Hardwood Stand.*

His Beak Holds More Than Bellycan

The pelican derives its name from the Greek. It has a huge beak shaped like the great Greek *pelekus*, an axe.



Wildlife I.D. Survey

Just how important is nature study? Can a person really understand and appreciate our environmental problems without at least some basic knowledge of the natural world? Have those of us involved in the outdoors taken for granted certain fundamentals that we assume everyone already knows? It's obvious to many of us involved in education that while some of our students can explain DNA replication or the light and dark reactions of photosynthesis, they can't tell a copperhead from a garter snake or a turkey from a grouse! Sound extreme? Not at all, unfortunately.

But what about the general public? Recent tests have shown that many high school seniors cannot add or subtract, read or write effectively. Can their parents? Are these youngsters any worse than the adult population?

A survey was conducted about a year ago by an ambitious group of field ecology students from West York Area High School, York. A "classroom" exhibit was constructed, complete with electric quiz boards and live animals, at a large shopping mall near Harrisburg. As curious passersby stopped to browse, they were asked to participate in the study.

During the three-day program, 306 people responded to the three-part survey. Part I requested personal information such as age, sex, occupation, education, and home area. Part II was an interest survey dealing with outdoor recreation. Participants simply checked those forms of recreation in which they took part on a more-or-less regular basis. Part III was a test. Photographic slides of 25 common birds and mammals were shown and each participant identified the animal on an answer sheet. The ecology class chose the species. They felt most were relatively

common and familiar, although they used a few species of greater difficulty.

Results:

The mean score on the test was 14.4 correct, just under 60 percent. Roughly two-thirds of the folks scored less than 67 percent. In other words, only one-third of our test group would have "passed" by most high school standards. The range extended from one person who had one correct to two persons who had 25 correct.

Even more impressive was the distribution of errors. The following table indicates the number of incorrect responses for each species.

<i>Species</i>	<i>Incorrect Answers (Out of 306)</i>
Raccoon	18
Opossum	20
Porcupine	24
Blue Jay	26
Turkey	28
Deer	29
Chipmunk	44
Elk	65
Geese	71
Otter	79
Ruffed Grouse	85
Bobcat	115
Gray Squirrel	123
Red-winged Blackbird	141
Weasel	164
Groundhog	166
Horned Owl	187
Flying Squirrel	195
Muskrat	198
Downy Woodpecker	224
Golden Eagle	240
Kestrel (Sparrow Hawk)	244
Osprey (Fish Hawk)	246
Deer Mouse	249
Vole - Field Mouse	271

Twenty-eight percent of our study group did not correctly identify a ruffed grouse—our state bird. And more than half missed such common critters as the groundhog and muskrat.

What could account for these results? Sex? Age? Education? Recreational interests? Following is a breakdown of mean scores by various groupings.

Mean scores by sex:

Males scored somewhat better on average (15.6 correct—62.4 percent) than females (13.3 correct—53.2 percent).

Mean scores by age:

Age Group	No. Correct
12 and under	12.3
13 - 18	14.0
19 - 25	12.2
26 - 40	15.2
Over 40	14.1

While you could theorize a great deal from these figures, it's probably best to recognize them as inconclusive.

Mean scores by education:

Education	No. Correct
Did not graduate from high school	14.2
Students	13.75
High School graduates	13.4
Some college	14.8
College graduates	14.2

There seems to be little influence of formal education upon the ability to recognize our subject animals—probably because most schools don't teach much wildlife identification.

Mean scores by recreational interests:

Interest	# of Responses	Mean Score
Hunting	103	18.4
Fishing	155	16
Off Road Vehicles	9	14
Horseback Riding	59	13.8

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GAME NEWS

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Many other interest areas were indicated on the survey forms but not analyzed. The students conducting the survey were particularly interested in the recreational interests that actually were evaluated.

It might be expected that hunters would rank high. However, it is surprising that their mean score was not a great deal higher. The range of scores for hunters was from 13 to 22, whereas all non-hunters scored between 9 and 17.

Comments:

So what does all this mean? First, this simple test points to how much we *don't* know about that world of nature out there. Second, this information gap is present in all age groups and educational levels with only a slight variation between the sexes. Third, hunters as a group showed the highest mean score but still well below what might be expected of this outdoor-oriented group.

As more and more of us lose contact with the land, we also lose an understanding of it. Without that understanding, can we expect to develop an appreciation for things wild, free and natural? Can we expect people to develop a sound environmental attitude without understanding how natural systems operate? Can we really be environmentalists without being naturalists? Knowledge develops appreciation; appreciation develops concern.

It would be interesting and valuable to repeat this survey in various areas around the state. How would results from Allegheny County compare to Lycoming, Wayne or Montgomery? Better yet, what if we use songbirds, trees or wildflowers as a subject category? Good thought—but brace yourself for the results!

Your comments and ideas are always welcome. Send to Bill Einsig, 1912 Karyl Lane, York, PA 17404.

Takes Awhile To Fill

The stomach of the hippopotamus is over ten feet in length—so large that it can hold 400 or 500 pounds of food.



WOODLAND THOUGHTS

BY LOU HOFFMAN

Wildlife Education Specialist

Some of the things that warm a woods, and make it a good place to be, can't be seen. The cold is one of those things, even though there's nothing warming about an element that can be downright bitter. Of course, winter is like that, bittersweet and double-edged, and February usually houses the worst of her wrath. Icy slivers shoot straight to the bone, and flesh, full of tension, throws back goose bumps to blunt the sharpness. But the cold holds a savory challenge to those who like woodsy settings, and though wanderings to those places may be brief, they are full of personal happenings that, when recounted, warm insides as much as a sunny day in July.

WINTER is simple. It's a carrot-and-stick time full of straight sternness. There's little color. No slopes of wild flowers to tax the wits of the naturalist and the colored specks of feathers that dressed treetops during spring, summer and fall are, like the leaves, gone. Even her sky is dressed in a monotonous gray. Sometimes she lets down and throws some sunny days our way, but these are usually followed by the coldest nights, as clouds insulate and trap warm air. Without them, the heat radiates skyward and the mercury slides deeper into its glassy stem. And then on other days, usually toward evening, she paints a message of warm rosy hues marbled with grays across the western sky. But with darkness, the

false feelings of warmth are shattered.

Recalling past winter months through the pages of my journal, her reminders were highlighted even more than those pages by today's storm, and it was especially fitting of the season. Early snow had turned to sleet and ice glazed everything. At lunchtime I took a brief walk to feel some of the things about which I was writing. Even though my tattered notebook has sparked more memories than I could even hope to recall, there's no substitute for the real thing. It was a biting, wet cold, and when I came back I remembered even more my notes of past winters.

But my trip home was even more impressive and my journal grew with another wordy bulge. Adding one detour to another, I squeezed every bit of daylight out of the ice-mist of twilight, and everywhere something was happening.

Fields were a glazed iceland and a dove arced over the road. I wondered why he hadn't gone south. He was probably wrestling with the same question. A cockbird splashed iridescence on the glassiness of a fencerow, shining like a living jewel. Mindful of the recent hunting season and his association with cars, he soon disappeared. Nearby I spotted one of his surviving cousins right next to the road in the middle of a lawn flanked with a few stately spruces. Apparently concerned equally about a roosting spot and my

presence, he hesitated, then went airborne, climbing a couple of stories to perch on an ice-sheathed bough. It swayed downward even further, so neither of his concerns was lessened. I drove on, leaving him with the more serious of the two problems to solve before sundown.

Just before dark I stopped to get a close-up look at last summer's fleabanes, lace and foxtail drooped heavily along the road. Snapping the seedhead of a foxtail, I envied its ornamental beauty and wished I could hang it on my Christmas tree. The wish and the icy stem melted from my warmer hand. There wasn't any teasel nearby but I thought how sparkling they must be tonight.

Penn's Woods' winters are best in the Black Forest of our Northcentral Highlands. Named by our German ancestors for the Black Forest of Germany, the area is known for its deep hollows and high dark ridges that are cloaked in stands of beech, maple, cherry, hemlock and white pine. It's there that you can climb inside the cold, there that you can feel its tension from your fingers to your stomach. And there's no relaxing or letting down, 'cause it's always around you, creeping up a sleeve or sneaking in a collar or nipping at an ear. Winter in the Black Forest is cold.

Remembering the early season cold and the Black Forest country always turns my thoughts to hunting, and by the time deer season rolls around, winter's in high gear. A windy 5 degrees can be agonizing, and as I chewed icicles from my mustache I was reminded of an old *National Geographic* that depicted those faraway places so well. At that point, in my mind, at least, South Pole explorations and Black Forest deer hunting vividly shared the cold.

But deer season comes early in the Black Forest winter, and as the cold lingers into the new year it bites deeper. Last winter, water in lines 4½ feet below ground level froze solid. It was bitter but the quiet was never deeper, and drillings from hairy woodpeckers carried across the stream bottoms like rifle shots.

Other creatures had tougher times finding food. They couldn't peck it out at will. I remember a barred owl we spotted along the road and how surprised we were at his lack of concern for our intrusion. Being about in the middle of the day was a clue to his hunger, but the degree was made even more obvious by the way he ignored us. His attention was locked on a snowbank that hid the frozen East Fork of the Sinnemahoning. I saw his body lift and could imagine his muscles flexing beneath the feathers. Suddenly, he plunged into the white drift. Outstretched wings soon began beating, and he climbed back to a perch,



triumphantly clutching a small rodent in his talons. That night his hunger wouldn't bite quite so deeply. But the cold would and, after a few more pictures, we retreated to the warmth of the car.

Wind and winter are inseparable and at this time gusts greyhound from the Arctic like at no other season. And

winter's winds punch instead of jabbing. Their treetop howls make it seem even colder than it really is. To boot, weathermen compute wind-chill factors and their horrendously low temperature forecasts nip at even listening ears. Outside, snowfields are graded into stop-action waves of white. And the winter goes on.

Meanwhile, wildlife bundles in habit and habitat encased in feather and fat and waits for the break. For some it never comes.

Winter's cold throws the supreme challenge to all woodland creatures and to those humans who wander into her wrath. But there are rewards. There is an escape kind of therapy that lightens senses shadowed by shortened days. Despite her cold, short winter treks reveal inner kinds of warmth.

A personal satisfaction blossoms from mastering a difficult winter sport. Getting your body to do what's in your mind may sometimes take hours, or even years, to master. But not

everyone is a winter camper or climber. The "sport" might be as simple as a short walk after a big Sunday meal. It might come as a thought to climb a windy ridge or walk a swampy, now frozen, stream bottom that you haven't visited since pheasant season.

But leaving some of the comforts will be worthwhile, 'cause not only will you come back with cold, tired, watery eyes, stinging ears and numbed fingers, but inside you'll feel good. And sleep will come sooner. And it probably will be ushered in by thoughts of a white-tail; or trying to unscramble a maze of tracks, and wondering which way he went; or wondering what kind of woodpecker sounds like *kuk---kuk---kukkuk---kuk---kuk---kuk-kuk*; and trying to remember whether it's honey or black locust that has the thorns.

Those are nice ways to drift into sleep. Deep and still—like winter, a cold time on the surface but warm inside. I hope you find time to get inside the cold this winter.



New Deer and Bear Records Book Available

Pennsylvania Big Game Records, 1965–1976, is the complete report on the Game Commission's six statewide deer and bear scoring programs. This 112-page paperbound book contains a complete integrated listing of all Pennsylvania-harvested deer and bear which have been measured during the programs (using the Boone and Crockett system) and which meet the minimums established by the Commission. In addition, personal accounts of most of the hunts which collected the top trophies are included, along with photos of more than 160 high-scoring deer and bear, annual harvest totals from 1915 through 1976, and other informative items. Price is \$1.00 delivered, from Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120.

FEBRUARY provides an interesting variety of duties which involve going to court, attending sportsmen's meetings and activities, setting up an exhibit, a variety of law enforcement problems, beaver season, and finally, getting stuck.

February 1—This evening found me in attendance at the college sportsmen's club meeting. I presented a special slide lecture on beaver trapping, and we had some good discussions on wildlife management. One of the reasons I enjoy attending this club meeting is because they always express an interest in doing something for wildlife instead of wondering what the Game Commission is going to do for them.

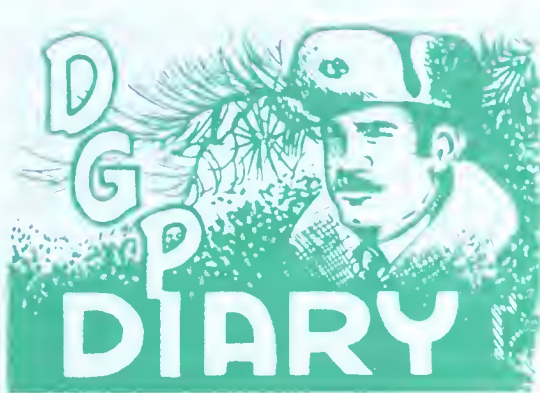
February 2—This morning we were before District Justice Eleanor Trask's court concerning another case left over from last deer season. This case involved four illegal deer possessed by the defendant. Thanks to some honest sportsmen who came from Ralston and as far away as Boyertown to testify, we were able to win the case at this level. Now we must do the same before the county court later on.

February 5—Wild turkeys have been coming out into fields where farmers have been spreading manure. Here they are feeding on undigested kernels of corn. Unfortunately, I've received reports of persons shooting at them, so I guess I'll have to pay more attention to these areas.

February 6—DGP Lynn Keller asked me to bring some antique traps over for an exhibit at the winter carnival on Nessmuk Lake near Wellsboro. We both manned the exhibit and, despite unusually cold weather, answered numerous questions about trapping.

February 9—We had planned and advertised our beaver trapping class for several weeks, so we were disappointed when only about a half dozen people showed up at the Lambs Creek Sportsmen's Club for the occasion. While DGP Keller and I taught the class, Deputy Len Worden and Land Manager Dave Brown investigated a complaint of illegal rabbit hunting in my district. Dave stopped by later to tell me they caught the violators, who claimed they didn't know rabbit season was closed.

February 12—The first day of beaver season found me patrolling beaver dams near Arnot. I logged a lot of foot miles today checking dams and traps. Everything



By Jack Weaver

**District Game Protector
Tioga County**

was in order except for some youngsters who had never trapped before. I took some time to explain the tagging regulations to their father, who seemed grateful for the advice.

February 16—One of the beaver tagging regulations reads that if a trapper places two traps underwater at a set, then each trap must be tagged and two additional tags must be placed above the ice or water level. This is to expedite our checking the traps without disturbing them, and to keep violators from switching trap tags in an effort to take over the limit. Beaver trappers are expected to comply with these rules. Today I found one who didn't, so I left him a note to contact me later about the violation.

February 18—Occasionally a person doesn't bother to put any tags on a trap. He does this either because he is negligent, or so the game protector won't know who made an illegal set. In this particular case I'm not sure which the motive was. The trap was set on dry land and covered with grass, perhaps to catch the fox whose tracks meander back and forth along the stream. In any event, I wouldn't have found the trap if I hadn't stepped on it. He paid a fine, but I'm not sure yet who caught who.

February 19—Several members of the Lambs Creek Sportsmen's Club and I spent the morning pruning apple trees and making brushpiles from the cuttings. There are a lot of reverting farms in my district with old apple trees badly in need of pruning and daylighting. The idea is to cut away the dead wood, suckers, and odd-angled

limbs, thereby opening the center up to sunlight. Occasionally these trees are shaded out by the converging forest. When this happens, undesirable trees are cut down in order to save the apple trees. It's all a lot of work, but everyone enjoys the banter of good company and shares the satisfaction of doing something worthwhile for wildlife.

February 23—When you get stuck with a Jeep, brother you're stuck! I was going in to check a beaver dam when the bottom went out of the road. I suddenly found myself buried up to the frame. After about

an hour of hard work I gave up and called DGP Keller on the radio. With the deep frost line this year, roads which are normally good have become treacherous.

February 26—Land Manager Dave Brown and I attended the annual game dinner sponsored by the Hillside Rod and Gun Club. Such dinners are a good time to meet and talk with area sportsmen. The club puts on a meal fit for a king, with everything from rattlesnake to bear meat. After the meeting, Dave and I patrolled for illegal trapping near Mainesburg.

Books in Brief . . .

(Order from publisher, not from Game Commission)

The Audubon Society Field Guide to North American Birds (Eastern Region) by John Bull and John Farrand Jr. Alfred A. Knopf, NYC, 775 pp., \$7.95. Brand-new photographic field guide, with one or more color photos of each of 456 species grouped together at front of book. Though photos are usually inferior to good drawings for identification, most of these have been carefully chosen to show field identification marks. Photos are organized by body shape; perching birds are grouped by color, so you don't have to know your warblers from your vireos to find something. This makes use easier for beginners, but may frustrate ornithologists used to taxonomic organization. Up-to-date names. Well-designed text is easy to follow; species accounts are organized by habitat. Includes metric measurements and small sketches of birds in flight. Appendices cover accidentals, family descriptions, glossary, birding aids, conservation status. Index designed to double as life list. Lack of range maps and sonograms is disappointing, but you can't cram everything into a small book. Excellent field guide for beginners, combining best features of available books, plus some new ones; valuable addition to the experienced birder's field library. Also available for Western Region.

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EVERYONE should have an old man. I've got one; he's in his eighties, and he lives on a ranch on a wide, sage-tudded plain surrounded by mountains.

How about your old man?

Maybe your old man stokes a morning fire in a gray clapboard house along the Chesapeake. Down there the land meets the ocean in furtive, tide-washed coves, and strings of canvasbacks and redheads and scaup explode from the ditch grass, their bellies dripping with sparkling, suncatching water.

Or maybe your old man has a place up in Michigan. A small house, sure, but only a five-minute walk from grouse cover, and six dog pens out back. Five of the pens are empty; in the sixth is an old setter bitch who gets to sleep inside on the coldest nights—which come more and more often these days—and who still gets fire in her eyes when your old man puts on his gun vest.

Or maybe Kansas. Green and wide and cut with brushy ravines. Maybe your old man was born there and has always lived there, except when he was overseas that time so many years ago (the last war humanity would ever have to fight, they said); maybe your old man lives in a white house under cottonwoods beside a slow, ox-bowing creek. Where meadowlarks go up like quail all along the wagon road, and where quail go up like nobody's business when he motions you in on that staunch young pointer he's been working.

Or maybe he lives upstate. On the Pike. Where autumn mountains are red and brown, steep and rugged, cloaked with morning fog. Where deer eat windfall apples under a tree in the backyard (you daren't shoot these deer, or even joke about it), and where you get up in the dark, hear the old man coughing out in the kitchen, go out and see the pink wash in the East, walk with your old man as far as his stand, and go farther up the mountain to yours.

Maybe your old man has eyes blue and pale as denim that's been washed a hundred times. Or brown, sharp eyes sunk in a thicket of wrinkles. Maybe his hands are spotted and rough like but-

Thornapples



Chuck Fergus

tonwood bark, his face weathered like a walnut hull that has lain all winter beneath the tree. Just below the cuffs, his wrists may be brown as elk antlers after the bulls have rubbed them against alders. Rain, wind, snow, sun, blurring, ticking heat, and quiet cold: all rob skin of youth, beat it to toughness, brown and chafe and crack it.

Maybe your old man wears Western boots, with a special, handmade pair worn when shopping for livestock or going into town for the mail. Or arctics, with at least one broken buckle. Or leather-top rubbers bought from the same mail-order outfit year after year. Or birdshooter's specials with laces knotted where they've busted. Or patched, re-patched, and finally electrician-taped waders.

Hat? Usually. Stetson: rippled, salt creeping from the band, grimy where thumb and forefinger tug the brim toward the eyes. Canvas duck cap: tan or camouflage, faded and shapeless but guaranteed to keep off spray and hide the face from incomers. Wool cap: black-and-red checked Richie, visor broken, threads raveling at the back, crazy little black button gone off the top.

What does he shoot—if he still shoots? A Model 12 with an action that clatters like a sack full of clams? A 35 Rem with a spiral magazine and kick that'll set you down if you aren't ready? A 30-30 carbine with a triple circle of wire replacing the saddle loop? A



Damascus steel double ("English, I don't know the make, that's wore off; it was Dad's; we cut the stock down to fit me, and somewhere along the way I had Uncle Jack put on a recoil pad and take a couple inches off the barrels, which was a shame, because that took off the little pearl they had up front for a sight; I think the pearl's out in the garage somewhere; want to see it?")?

The old man will show you the pearl.

He'll show you many things. Like how to skin a squirrel quickly and efficiently and not get fur on the meat. Or how to lace your boots so they won't keep coming undone and slowing you down in woodcock cover. Or where to hunt turkeys during the last hours of a late-season day. Or where the elk lay up when the wind changes and snow begins to whip out of the East.

He'll show you all these, plus many things less practical but more important. He may even show you yourself in 30 or 40 or 50 years.

You're lucky if you have an old man. You're doubly lucky if the old man still has the agility and desire to hunt. And you're lucky beyond estimation if your old man is your father, or grandfather.

I have an old man—no blood relation, but as fine an old man as one could find. I write to him every month or so, and I wish I lived closer so I could drop by and see him more often.

My old man lives in Wyoming. He lives on a ranch he bought about fifteen years ago, before he became my old man. Before that, he and his wife worked a homestead high in the Sunlight Basin of the Absaroka Mountains. But winters are long up in Sunlight—snow flies in October and the melt doesn't commence until late May—and they were getting old even then, and so they bought the place down on the plain.

My old man's wife is gone now. He still ranches a little, with the help of a couple of friends and the day-to-day ease of habit, and he certainly doesn't make much money at it.

I met him through my aunt and uncle, who owned an adjacent ranch. Their place had bad water—alkaline, no good to drink—and every few days I would throw a half-dozen plastic bleach

containers in the back of the Plymouth, drive over to the old man's place, and fill them from his well.

I can close my eyes and dream up that kitchen. Slick tablecloth, checkered dish towel draped over salt and pepper shakers and syrup bottle, sourdough crock on the counter, stockman's calendar on the wall, denim jacket hung over a chair back, crumpled tan Stetson on the seat, mud-flecked boots under the same chair. Half an inch of dead flies in the well of a storm window, and out that window the bulk of Heart Mountain—sere or snow-dusted, depending on the season, dawn-rosy or gray as lead when the days shut down.

Latch String Out

I have, over the last five-years, spent a fair share of time in that kitchen. My old man tells me that "the latch string is out," which means I may come any time and stay as long as I want. I go there when I can.

After meals, my old man washes the dishes carefully—refusing my offer to perform this chore—and stacks them in a metal rack. Often the radio is on, soft but distinct, with "news of Cody and the Bighorn Basin."

My old man sits back down, and we talk. We talk about things we don't like, and things we do, and my old man has plenty of both. He dislikes snowmobiles, the Forest Service (passionately), Charolais cattle, magpies, people who drive across his land and cut his fences, Franklin Delano Roosevelt, and Coca-Cola. He likes a far greater number of things, including pickup trucks, Pendleton shirts, cats, jackrabbits, Hereford cattle, horses (he remembers some he owned 40 years ago and still grieves for them at times), people who show spirit and dignity under difficult conditions, Indians, neighbors, and certain memories.

Many of the memories have to do with hunting.

Like the time a bunch of hunters straggled into his high country cabin, half-frozen after getting caught in an early blizzard. They told him they'd just lost a 30-30 on the summit of a conical, nameless mountain that towers



MY OLD MAN is no blood relation, but as fine an old man as one could find. He lives in Wyoming. When he was younger, he and his wife worked a homestead high in the Sunlight Basin of the Absarokas.

up on the edge of his homestead, and that he could have the rifle if he wanted to fetch it. And how he found it the following spring, and how he used it over the decades to take a tremendous number and variety of game.

There was the bighorn killed right at timberline after a long stalk: the sheep all belting past through talus, my old man's carbine swinging on the biggest ram, the heavy sound of the bullet striking, the spasmodic kick of the dead animal.

The Shiras moose which he woke up to find browsing alder shoots just a hundred yards from the cabin: the bead front sight silver against the moose's black side, the shot waking my old man's wife, and the moose running a few steps toward the springhouse before falling.

The elk: so many he's lost count. Elk taken for their racks, elk bugled in for friends, crippled elk finished off for

hunters he was guiding. Depression elk—hillside salmon, government beef—one way to stay solvent when times were hard.

A grizzly taken in the day's last light in a high country meadow: the first shot not instantly fatal, the animal's outraged, unearthly cries rebounding from mountains and banks of shadowy pines, my old man's second shot anchoring the bear, his third shot finishing it.

Or the time my old man was guiding and they spooked a very ordinary mule deer buck out of a blowdown. They already had camp meat and a full packload, but the client wanted the deer, which stood on the edge of the trees watching them. The hunter asked for my old man's 30-30; was reluctantly given the gun; worked a shell into the chamber; and, in doing so, sandwiched the sling between lever and stock, preventing the action from locking. The hunter tugged the trigger. Nothing. He yanked it. My old man waited until the buck faded into the timber. Then he took his rifle back, saying, "You just have to pull right hard."

My old man talks about hunting and game and the way things were then and the way they are now, and I listen.

I sit across the table from him. The dawn lights his face, or the harsh noon light accentuates its lines and creases, or the warm evening light filters into the kitchen from where the sun is setting behind Jim Mountain up there in Sunlight. My old man talks, and I listen, even though I've heard many of the stories before. If he knows he repeats himself, I hope to God he also knows that I want to hear. Not out of pity, but respect; not out of sentimentality, but from a need to know what it was like for one who went before me.

I hope my old man knows that without him and his kind sitting across the table, the rest of us are diminished.

How About Scrambled?

The eggs of snapping turtles are good food but must be fried as they will not boil hard.



Keystone of archery excellence. . . .

TWAC

By Keith C. Schuyler

Photos from the Author

PERHAPS IT IS only proper that the world-famous center for target archers finally found its way into Pennsylvania. In any event, The World Archery Center had its second successful year at Marshalls Creek on the 40th anniversary of the archery teaching facility which began in Roxbury, Vt., in 1937. And this writer was on deck for the observance.

Mrs. Myrtle K. Miller is The World Archery Center—affectionately called TWAC (pronounced twak)—for it was her foresight and faith in advanced target archery that put the Center on the map and then moved it to Pennsylvania. Through the years some of the most famous personalities and top scorers in archery have participated in activities. Much of the credit must go to Myrtle's husband, Edward B. Miller, co-founder and co-executive director of the camp which had a modest beginning despite its high-sounding name.

For there were, as Mrs. Miller explained, one and one-half registra-

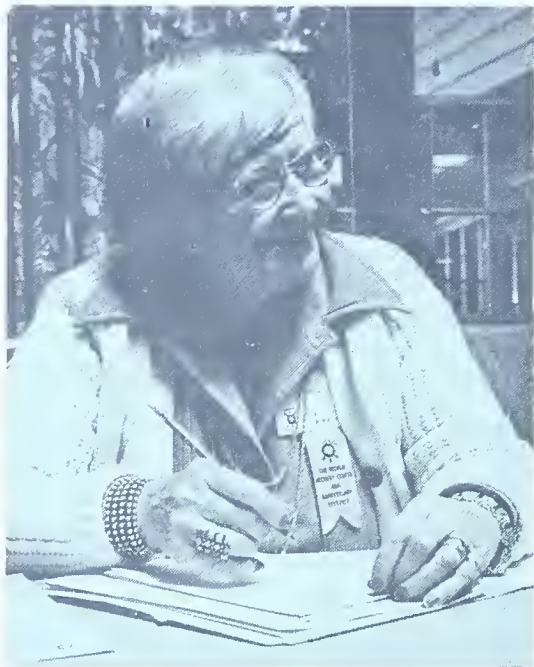
tions at the first session in 1937. This situation, she clarified, came about because there was only one full-paying guest and a photographer who registered at half rate because he was there to photograph the camp.

Myrtle Miller initially had absolutely no interest in archery. She was a golfer, and a good one. Russel Hoogerhyde, six-time national target champion, got her interested in archery. On the golf course where she played at Grand Rapids, Mich., Hoogerhyde was coach for an archery range that had been set up on part of the golf property.

But it was the late Arthur Young, of Pope and Young fame, who provided the catalyst to get Myrtle really involved in target archery. Young gave a demonstration at the high school where she was a teacher, and enough money was raised through the demonstration to pay him off and leave \$60 to purchase tackle for the high school of 400 students. Nevertheless, no time was provided during school hours, and all of

her activities with the youngsters came before school, during lunch, and after school, with the help of her husband.

There were no teaching aids, and this inspired her to develop some methods during the few years at Grand Rapids. Myrtle continued with her shooting and won the 1936 International Championship Match between Canada and



MYRTLE MILLER, executive director of The World Archery Center, has been the mainstay of the camp during its continuous four decades of existence.

the United States. She also was state champion for Connecticut in 1935 and won the New York City championship in 1939. By 1940 she had become involved with the American Association for Health, Physical Education and Recreation, as head of the national section of Women's Individual Sports. It was a job with no pay, but it did make it possible to promote youth in archery. Most of her developing interest in archery she again attributes to the excellent teaching of Russ Hoogerhyde. He also attended the 1977 session.

Teela-Wooket, in Vermont, where the initial World Archery Center was established, had been a girls' camp. Ed Miller laid out the first target course in 1937. In 1938, Dr. Clarence N. Hickman, who was inducted into the Archery Hall of Fame last year, helped

with instruction. Myrtle had the honor of presenting him with his award at a banquet following the annual teaching program. Dr. Hickman had worked with Paul Klopsteg in development of the recurve bow. Both joined the late Forrest Nagler in authoring *Archery the Technical Side*, a book now on the rare list that sells for in excess of \$100.

Russ Hoogerhyde, also a Hall of Famer, took the course himself in 1938 when 38 were in attendance. The biggest year was the 25th anniversary with about 200, of whom 50 were teachers in-training who intended to take the instructor's course.

Facilities were somewhat primitive at Teela-Wooket, but this was no deterrent. There was no individual plumbing for the cabins but this quaint arrangement had its own appeal and many came back year after year. Gradually the fame of Teela-Wooket spread, and the NAA school at Pennsylvania's Stone Valley was an outgrowth of this program. All courses at the center are today National Archery Association certified.

Over the years, there was some interest by other countries, but it wasn't until 1969, after the World Archery Championship held at Valley Forge, that many countries began sending representatives to Teela-Wooket.

The courses are not easy and certificates are not handed out indiscriminately. Among those who take the instructor's course, about 70 percent pass. Scores actually count very little in the final analysis. The chief accent is on teaching ability.

Most of the staff today consists of professional educators. None are paid beyond their travel expense and lodging, so that student costs can be kept attractive, particularly for those who come long distances.

Today the average enrollment consists of about 50 in the teachers-in-training class, although in 1977 80 were registered. About 200 were present, including staff and students, in 1977.

One family that Myrtle Miller remembers with special affection is that of Gregg Moga, of Buffalo, N.Y. In 1945, the entire family attended Teela-

Wooket, including Mrs. Moga, Craig r., Jerome and Michael. The next year Jerome won the national junior championship, and the following year his brother Michael was high scorer.

It is noteworthy that in all the years the camps have been held, there have been no mishaps.

Although Ed Miller was an archer before his wife, other interests make it necessary that he commute but occasionally to the encampment. Nevertheless, it has been his help in many ways, including financial, that has kept the camp together.

East Stroudsburg State College has now offered credits for attendance at The World Archery Center. Maryanne Schumm, associate professor of physical education at East Stroudsburg, is one of the head directors. She attends each encampment of the center, in addition to conducting an extensive archery program at East Stroudsburg State College, which has been the site of numerous college tournaments. It is no coincidence that her college teams stood at the top in the nation as of 1977.

New facilities for The World Archery Center include the entire Pocono Sports Camp when in session. The camp is located on Route 209 just five miles north of Stroudsburg. This is a former resort hotel now run by three physical educators, Clyde H. Whitman, Samuel J. Coursen and John K. Johnston, for the purpose of hosting sport clinics.

Over 1,500 men and women have taken TWAC instructor's course to qualify for teaching and coaching archery in schools and colleges across the United States and around the world. Some countries which have sponsored instructors include Austria, Argentina, Brazil, Canada, Dominican Republic, England, Germany, India, Italy, Philippines, Rhodesia, South



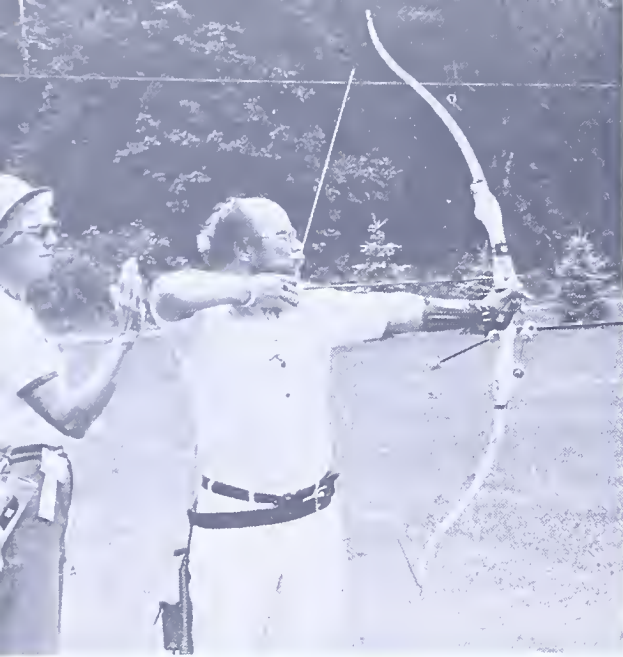
A FULL SCHEDULE of shooting activities captures the attention of students of all ages throughout the busy sessions. The average enrollment consists of about 50 teachers-in-training.

Africa, Switzerland, Turkey and Venezuela. The shorter basic course has been attended by several hundred additional individuals.

Among those who have carried the expertise from TWAC around the globe is the current Olympic gold medal holder, Darrell Pace, of Cincinnati, Ohio. Luann Ryon, who took the ladies' gold medal at Montreal, was taught and coached for three years at Riverside College, Calif., by Lois Cresge who was trained by TWAC staffer Lorraine Pszczola. Italy's Olympic bronze medal winner, Gian Carlo Ferrarri of Milan, was coached by TWAC-certified Mario Codespoti. Another Italian archer, who placed tenth, was also coached by the same instructor. It is impossible to determine the full impact of archery around the world from the admittedly modest start of Teela-Wooket which has grown into a much more ambitious program.

Actually, a number of courses are available at the center. Most outstanding is the 12-day advanced international coaches' course. This places emphasis on the very finest points in advanced shooting techniques coupled with individual analysis, technical knowledge of tackle and its performance, broad knowledge of international rules, customs, events, etc. Also included is practical experience working with advanced archers. Successful completion in this one earns the advanced interna-





PATRICIA BAIER, longtime coaching instructor at TWAC, checks draw of **Rudolph Gajewski** of Lahausen, Germany. Many countries sponsor archers taking instructors' course.

tional coach's certificate.

A 10-day instructor's course is designed for anyone called upon to teach or coach archery at any level. Those passing this course receive TWAC's instructor's certificate and the NAA instructor certificate. Those who just go along for the ride earn a certificate of attendance. This course is designed to accommodate beginners, intermediate, or advanced archers.

For camp archery counselors and instructors unable to fit the 12-day course into their schedules, a 6-day basic course is offered. This earns TWAC's archery counselor certificate and the outdoor education archery award of the American Alliance for Health, Physical Education and Recreation.

A first was established in 1976 when the 2-day Bowhunter Education Course was offered. Although this is basically a 6-hour course, at TWAC two full days and evenings are utilized to cover bow hunting in areas impossible to cover in the regular course which is offered across the country. Those completing this course receive a TWAC and a Bowhunting Education Foundation instructor certificate.

All courses include in various

degrees the opportunity to gain information and experience in many phases of archery. For those who just wish to make an archery vacation out of it, there are shooting activities as well as a swimming pool and boating on the stream which flows through the property.

The main building at Pocono Sports Camp was once an active vacation resort. Facilities have been retained, although on a much more modest scale than the usual resort, and the cost is proportionately geared to the accommodations. Each guest takes on certain individual responsibilities relative to housekeeping in the rooms as well as bed-making, etc. However, each room has its individual bath and guests have full use of other facilities. There is an indoor range as well as three outdoor ranges, including a full FITA range. Consequently, all the atmosphere of a vacation resort is combined with a lot of hard work and intensive instruction. Days are full and most evenings are devoted to lectures and classroom work.

Members of the staff provide a "Who's Who" of archery in the United States as well as many foreign countries. Foreign countries represented last year included Canada, England, Columbia, Germany, Austria, Ireland, Poland, the Philippines and Spain. There was more than one representative from most of the countries mentioned.

Those attending the 1977 session in the advanced coaching class had the opportunity to rub elbows and receive instruction from such as Bill Bednar, three times Professional Archery Association champion, of Ohio; Vic Berger, three times PAA champion, Ohio; Rick Bednar, three times National Intermediate champ and U.S. Intercollegiate champ and Lura Wilson, coach of over 25 national scholastic championship teams.

Those desiring further information or who wish to avail themselves of one of the courses offered should address correspondence to: Mr. and Mrs. Edward B. Miller, Executive Directors, 67-M Old Stone Church Road, G.N., Upper Saddle River, N.J. 07458, or telephone 201-327-2170.



EXPANDING QUALITIES OF Speer Mag-Tip, fired into sand/sawdust box, are shown here; the 80-gr. bullet averaged 125 grains after firing. Speer's newer 180-gr. Grand Slam averaged 50 grains retained weight.

A hunter's success depends a good bit on the selection of . . .

The Proper Bullet

by Don Lewis

Photos by Helen Lewis

"I'M SORRY about not having the type of bullet you wanted, but the spitzer point was all I had left in 150-grain slugs for your caliber, and I felt you wouldn't mind using them," I told a customer back in 1959 when I ran a custom reloading shop. "I'm sure they will expand."

"That's not the way I've been told," he fired back. "I have no faith in a pointed bullet, and some experienced hunting friends of mine feel the same way. It only stands to reason the sharp point will zip right through a deer."

"Do you believe a round-nose bullet expands more than one with a pointed tip? I've seen deer shot with the spitzer-type bullet, and there were plenty of signs of expansion."

"I'm still convinced a sharp-pointed bullet cannot deliver as much expansion as the round-nose jobs I wanted in my reloads. I think it makes common sense."

"I respect your strong belief, but I

believe your theory is not true. Ballistic evidences proves expansion is caused a good bit by the diameter of the jacket's nose where the lead protrudes."

Our mild disagreement continued until the clock showed midnight, and I finally persuaded him to hunt the first day with the spitzer bullet, and I would replace them as soon as new slugs arrived. He still was not satisfied, however, and left with a strong warning.

"I'll agree your offer is fair, but I better not lose a trophy rack on account of the spitzer point; I wouldn't take that lightly."

I went to bed feeling a bit distraught, but it was a matter beyond me since the fellow had waited until the last minute to get his cases reloaded. I didn't want to wish him bad luck, but I was hoping he wouldn't wound a deer, as all the blame would be placed on me. Sleep finally came, but I woke up several times that night feeling a little bitter.



PARTITIONED BOX CONTAINS 7 parts sawdust to 3 parts sand, by volume. Typical 180-gr. expanding bullet from 30-06 penetrates about 16 inches when striking velocity is 2500 fs. Results are informative but such testing is very time consuming.

Several evenings later, I was finishing a late supper when a heavy hand pounded on the front door. When I opened it, lo and behold, there was my customer! There's was no backing down now, so I bravely inquired how he had done, and how he felt about the spitzer point. For a few seconds, he stared over my head.

"You know, Lewis," he said quietly, "I've been misled for more than twenty years. All I have ever been taught was to use a heavy bullet with a flat nose, and the flatter the better. If you've got a second, come down and see what I have in my pickup."

The 6-point in the truck was nothing to get excited about rack-wise, but one thing was certain; the spitzer bullet had done a whale of a job cutting through the brisket and out the rib cage, leaving a two-inch exit hole in its wake. According to my customer, it was a 175-yard instant kill, and there was no way he wanted to trade for round-nose bullets.

I'm not trying to establish an iron-clad theory on bullet expansion with one isolated case, but I am trying to get across that there's more to a bullet than just a copper jacket filled with soft lead. Many hunters are very selective over the make, model and chambering of a rifle, but give little thought to picking the right bullet for the game hunted.

Today's hunter is intelligent, but sometimes things are just taken for granted, and that goes for bullet picking. With the maze of brands and types now on the market, the hunter has to

be at a loss. Too many times, the speed of the bullet is the deciding factor, and this usually leads to lighter bullets. There is no exact criterion for selecting the right bullet, but the big game hunter should partly base his decision on how much shock and penetration it will take to make an instant kill on the game hunted. I think I'm within the bounds of reason to state a bear is tougher than a whitetail deer, hence, a bullet of heavier construction and weight should be chosen for it.

The design of a bullet has a deeper meaning than just to please the cosmetic eye of its manufacturer. The flat nose 30-30 wasn't made that way to hit harder, but to prevent accidental discharge in the rifle's magazine tube during firing. Under heavy spring tension a sharp-pointed bullet pushed against the primer of the case in front of it could act as a firing pin during recoil and set the shell off. It doesn't make the bullet hit harder as is a common belief. Hitting harder—or kinetic energy—is a combination of bullet speed and weight.

For a good many years, bullet designers were faced with the enormous task of making a bullet that



ould do all things for all hunters under all conditions. This was unfair and next to impossible. I will admit that bullet manufacturers are getting closer to the "perfect bullet," but I can't see much importance in it. As long as a wide variety of bullets is available, the hunter has the right to choose what is best for him. I like the idea that more effort is being put forth to produce bullets designed primarily for specific types of hunting and shooting.

Many Good Bullets

There are many bullets to choose from today, and there's no question today's bullet is superior to those used by yesteryear's hunters. Factory match bullets, for instance, have been refined to the point that spinning for concentricity is not necessary. I fired some 3-shot groups from my 40XB-BR Remington 222 scoped with an 18X Redfield using both 52-grain match custom and factory bullets. No attempts were made to find the correct seating depth for each bullet, and cases were full-length resized after each shot and trimmed. Not one group strayed beyond 5/8" at 100 yards. That's far from spectacular in the world of benchrest shooting, but it does indicate the factory bullet is held to rigid standards.

Basically, big game bullets are designed to retain most of their original weight after impact. This is a must if the bullet is expected to penetrate through tough muscle and heavy bone to get to vital areas. A bullet that breaks up too quickly after impact has no place in the big game woods. In my book, the bullet used must be capable of making a clean kill from any angle. This was brought home to me in a vivid manner shortly after World War II.

I hit a running doe in the hip at 95 yards. The deer gave no appearance of being hit and climbed a steep snowbank at nearly full gallop. Twenty minutes later, I downed the doe with a neck shot, but vowed I would never again carry a 22 Hornet for deer. The tiny 50-grain pill passed through a minimal amount of tissue and struck the hip joint, but its disintegration on impact took the punch out of it and the



LEWIS EXAMINES bullet removed from box. Tests were fired at 75 yards to approximate average shooting distance of Pennsylvania whitetails. Rifle is M700 Remington wearing Weaver 3-9x scope, Weaver bridge mount.

bone was scarcely damaged. A slug designed for penetration would have downed the doe on the spot.

Nosler has made a partition bullet for years. The two-core design is intended to provide weight retention during the initial impact for more shock, deep penetration and proper expansion. The Nosler jacket tapers toward the nose and the thinning of the jacket's side wall permits it to rupture instantly and curl backwards evenly, even at long ranges where velocity is low. The soft front core gives tremendous shocking power as the jacket peels rearward, but the rear core is encased in a partitioned off section and can't escape. The rear section provides the push needed for penetration. This is important, considering the rear portion forms about two-thirds of the bullet's original weight.

Speer recently introduced their Grand Slam series of bullets. The Grand Slam is not partitioned, but has two cores of different lead hardness. The front core is hot poured on the tougher bottom core, which is locked in the jacket by a tiny heel fold in the base. Here again, the softer front section expands uniformly while the



DIFFERENT PROFILES of common hunting bullets. From left: round nose in 30-06, flat point in 30-30, and spitzer bullet in 270. Each design is a result of certain required characteristics.

harder back portion aids in penetration.

I've used these two examples to illustrate that more emphasis is being placed on how a bullet reacts when it reaches the target. I suppose any bullet weighing 100 grains or more is heavy enough for whitetail deer hunting, if given reasonable velocity, and any cartridge from the 6mm up has sufficient power and speed. It's what the bullet does when and after it hits that is important. The big game bullet is supposed to open a wide wound channel during penetration while retaining most of its original weight.

The individual hunter has no practical way of finding this out. Field shooting can hardly portray a true picture in one sense of the word. Just to find out how one weight and style of bullet will do would require killing dozens of animals under various hunting conditions. It just isn't practical. About all that can be done is to improvise. I built a long wooden box that's 10 inches wide and high. Every five inches there is a track to insert a piece of common cardboard. To simulate to a degree the effects of bone and muscle, I filled the box with a mixture of sand and sawdust. The bullet enters through a piece of cardboard in the front of the

box and passes through the sand and sawdust. By removing the cardboard partitions, I can see how the bullet expanded and how far it traveled.

While my setup was crude, it at least gave each bullet a similar test. I'm not implying my tests proved definitely how a bullet would perform in the field, but by shooting at various distances, I did learn how each bullet reacted under similar conditions. One type of bullet would expand in the first few inches and quickly lose more than half its original weight, while a different brand of the same weight and caliber wouldn't open up until it had passed through the first cardboard partition. In some instances, too rapid expansion caused the bullet to come apart, and very little was left for recovery.

Copper and Lead

In appearance, a bullet seems to be nothing more than a copper jacket filled with soft lead, and basically, that is just what it is. But the internal design of the bullet's jacket has a lot to do with how it does its job when it strikes an animal. I've explained how Nosler and Speer are working with the two-core theory, but from much different approaches. Expansion problems, however, are not new. Years back, for instance, Winchester developed its Power-Point bullet for the Winchester 338 Magnum to give uniform expansion, quick mushrooming effect, and plenty of hitting power. Six notches or slots running rearward along the ogive acted as break-up points that would peel backwards even on medium-size game. Again, it was an attempt to produce a bullet that would expand uniformly at all ranges.

Out of the big game category, there are cases where expansion is not wanted. The fox and turkey hunter wants as little pelt and meat damage as possible. Cutting back on velocity helped some, but even at low speeds of around 1600 fps, the centerfire varmint bullet reacted violently. A bright spot on the horizon is Hornady's .225" full metal jacket 55-grain pill. I haven't range tested it, but it should be practically nonexpanding even at

peeds in the 3000 fps category. More in that later.

There's no doubt the average hunter and shooter is confused. Elementary ballistics are confusing, and with all the talk of ballistic coefficients, sectional density, and kinetic energy, it just adds more confusion. A gun writer is bombarded with questions like the energy difference produced by bullets of different weights and calibers traveling at the same velocity. That's a much asked question, but to put a little more realism in it, another hypothesis will have to be added. We'll have to assume both bullets have the same ballistic coefficient.

Now there is a common ground to work from, and since the bullets have the same BC, they will have identical drag deceleration, which will cause them to slow down equally fast. With the same muzzle velocity, our two bullets will have the same time of flight and the same amount of drop. But, because they are not of equal weight, they can't have identical amounts of kinetic energy. Because energy is proportional to weight, the heavier of the two bullets will have more energy at any distance. (A lightweight bullet can equal the energy output of a heavier bullet if enough speed can be obtained to make up for the weight difference.)

The selection of the right bullet

shouldn't be a hit or miss affair, and the hunter should mate the bullet with the type of game hunted. As important as that is, it's also just as important to know the accuracy of a bullet from a given rifle. I've owned several rifles that wouldn't handle some types of bullets. Even when I used the same weight of bullet in front of the same primer/powder combination, the results at 100 yards would be noticeably different. Changing from a spitzer to a semi point, or vice versa, reduced the group size as much as half. Accuracy with the big game rifle is not as important as with the varmint or squirrel outfit, but bullet placement is still a genuine consideration.

With all the advice and data that can be offered, the hunter will have to settle for some type of trial and error method. Most of the time, the hunter will have to rely upon what seems to do the best job. Fortunately, the modern bullet is better than ever, and can be depended upon to do the job as long as it has sufficient weight and speed. There's no easy solution; it's a matter of time and testing. It may not be ballistically true, but I have always felt the hunter who shoots more accurately will ultimately get more game. The answer, then, is practice—and there's the perfect excuse to get away from household chores and to the range!

EARTHWATCH Expeditions

Four-hundred people are now being recruited to staff over 45 teams for field research expeditions in archaeology, anthropology, earth, marine, the life sciences and the humanities. Sponsored by EARTHWATCH, a non-profit organization, the projects are funded by laypeople who participate as actual working members of the expedition team under the supervision of the professional researcher.

These projects are open to people who are willing to work, ready to learn, and able to share the costs to make them possible. Tax-deductible con-

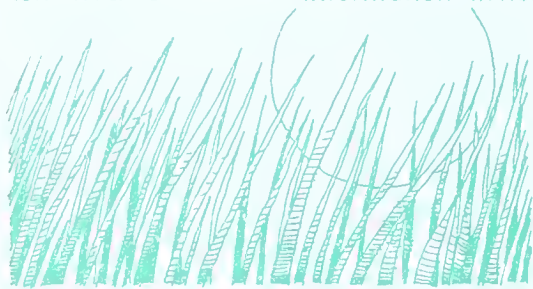
tributions of \$500 - \$950 by those who participate subsidize the research effort. These aren't guided tours or educational field trips, but working experiences sharing the life of professionals seeking solutions to real problems and unanswered questions.

EARTHWATCH expeditions are open to anyone 16 to 75; no special skills are required as participants are taught what they'll need to know in the field. Readers wishing more information should write: EARTHWATCH, Box 127A, Belmont, MA 02178, or call 617-489-3030.

In the wind

toni williams

information writer



Coal gasification—the reduction of powdered coal to gas—isn't a new idea. But most plants have been small and few remain active. The federal government is cooperating with private industry to try out a large-scale gasification plant which will convert high-sulfur coal (which pollutes air and eventually water when burned) into low-energy but clean gas, with pure sulfur to be sold as a byproduct. Some types of industries could use this gas to meet pollution standards.

The state of Florida, already beset by such environmental headaches as wetlands drainage and development, noxious introduced exotics including walking catfish, water hyacinth and *Melaleuca* (a tree)—not to mention the cross-Florida barge canal—has asked permission to spray 19 coastal counties with Mirex to control fire ants accidentally introduced decades ago from Brazil. The pesticide, apparently the most effective one against fire ants, is also quite effective against some aquatic invertebrates such as shrimps and crabs. Environmentalists oppose its use in coastal areas.

The long-fought battle to save the "Old Man of the Mountain," a cliff in Franconia Notch, N.H., which looks like a man's face, has ended in compromise. A highway slated for widening (which might cause the "profile's" collapse) stretches through this scenic area heavily used by hikers and campers. Since 1957, they've disputed with the state highway department, but finally agreed to forget an alternate route if the section was kept as two-lane. It's the only part of the interstate system less than four lanes wide.

Stopgap measures to get threatened bird species through an "ecological bottleneck" must eventually lead to long-term habitat management, but some heroic are still needed. Much work remains, but success stories trickle in: A captive-bred peregrine has bred in the wild; a peregrin released years ago returned to care for newly-released young birds; runt European eaglets were hand-raised until they could fend for themselves; nest boxes prepared for a competitor of the rare Puerto Rican parrot have kept them out of the parrots' homes; endangered species' eggs have been hatched by similar but more abundant species; wire nesting baskets erected for Everglades kites led to the best recent nesting year; and brown pelicans' reproduction is beginning to recover apparently in response to the DDT ban.

A Nobel laureate in biochemistry has demonstrated that an oil with as much heating power as petroleum can be tapped from a potentially agricultural plant. His one-acre plot of mole plant is a "see crop," he says, but he figures it will eventually be economical and practical on a large scale. The native plant grows in areas too arid for most crops, and it could contribute significantly toward the national oil supply. But there's always a catch. The desert is a fragile ecosystem, and putting huge areas of it into crop production—even of a desert crop—is bound to have major impacts on other native fauna and flora.

The Texas Sheep and Goat Raisers Association has raised funds to defend three Texans accused of killing over 100 bald and golden eagles in a two-year period. The men allegedly shot the eagles from a helicopter leased with public funds. The Texas governor has requested exemption from federal laws protecting eagles.

The International Association of Fish and Wildlife Agencies announced a new non-profit foundation to educate the general public about wildlife and fisheries management, including hunting and fishing. The group, known as AWARE (America's Wildlife Association for Resource Education) is sponsoring a series of 13 half-hour TV shows in a news-type format. AWARE will ask the public for additional funds for series production.

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The bald eagle holds a special place in the feelings of all Americans. This is not completely due to the fact that it is our national emblem, though that of course is important, but also derives from this big bird's magnificent appearance, its commanding presence, its haughty attitude. Therefore, having an active eagle's nest in the Conneaut Marsh area of northwestern Pennsylvania was a source of pride to the Game Commission. Many visitors observed it from afar, their feelings a mixture of quiet satisfaction and awe. Then, in early 1977, a severe windstorm blew over the tree that contained the nest, destroying the eggs it contained. Game Commission personnel immediately built another platform and rudimentary nest in a nearby tree, as shown here, and within ten days the pair of eagles re-nested. Hopefully, these great birds will be seen in this area for many years to come.

—Fred Servey
CIA, Northwest Division

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COVER PAINTING BY J. M. ROEVER

Scratch another sock. Wipe up another puddle that didn't quite hit the newspaper. Yeah, the arrival of puppies means you'll have a few disappointments, a few frustrations. But even during the occasional lapse, pups are so appealing that you'll just laugh as you retrieve the shreds or sop up the mess. So delight in your puppy now, train it well, and it will repay you with many years of friendship and many fine hunts.

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More On Handgunfiscation

AT VARIOUS TIMES WE'VE suggested that gun registration—particularly handgun registration—was the first step toward confiscation. Those who favor registration have constantly ridiculed this viewpoint, claiming that it is simply a method of reducing crime, or protecting us from ourselves by keeping us from shooting other members of our families or ourselves, or whatever. We have legitimate responses to their claims, but let's consider a situation which concerns ours.

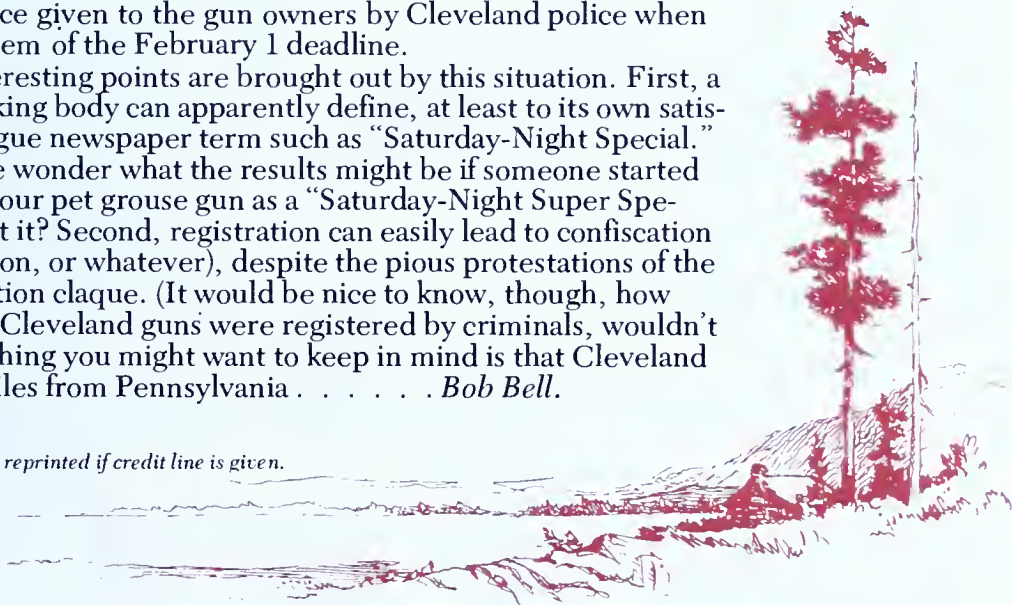
Recently, thousands of handgun owners in Cleveland, Ohio, who registered their guns in response to a city law, found out what it's like when the gun control trap snaps shut. They are now in the untenable position of having to get rid of their guns or be in violation of a law which could send them to prison and subject them to a stiff fine. Here's how it happened:

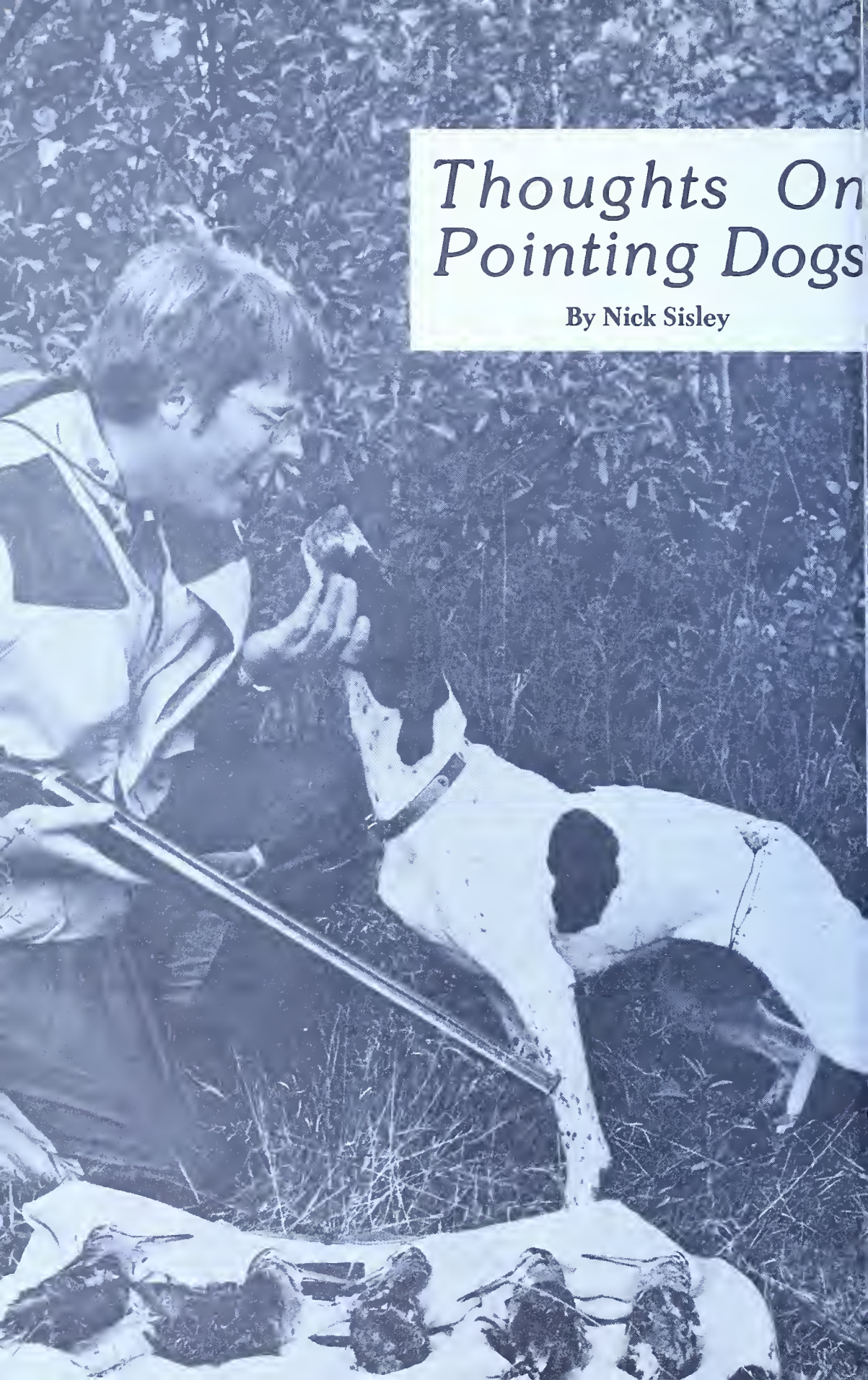
Several years ago, the Cleveland city council attempted to outlaw "Saturday-Night Specials." To our knowledge, this term has never been legally defined, but in the Cleveland instance the city council apparently decided that all .22, .25 and .32 caliber handguns with a barrel length of less than three inches were Saturday-Night Specials. Not everyone saw it that way, for a municipal court judge ruled that law unconstitutional, on the grounds that it was discriminatory. The council took another tack and subsequently passed, in 1976, a law requiring all handguns, including those of police and security officers, be registered. As a result, an estimated 18,000 handguns, and as many as 5,500 considered by the council to be Saturday-Night Specials, were put on the records.

The turn of the screw for Cleveland gun owners came in August, 1977, when the Eighth District Court of Appeals upheld the city council's initial Saturday-Night Special ban. As a consequence, over 5,000 Cleveland residents who complied with the registration law found themselves with their names on a list as owners of firearms which were now illegal. All registration permits for such firearms were revoked and the owners were given until February 1, 1978, to dispose of their firearms in any lawful manner without penalty. Those who did not get rid of their so-called Saturday-Night Specials would be in violation of the law and subject to punishment of up to six months imprisonment and a \$1,000 fine. Such was the notice given to the gun owners by Cleveland police when informing them of the February 1 deadline.

A few interesting points are brought out by this situation. First, a local lawmaking body can apparently define, at least to its own satisfaction, a vague newspaper term such as "Saturday-Night Special." It makes one wonder what the results might be if someone started describing your pet grouse gun as a "Saturday-Night Super Special," doesn't it? Second, registration can easily lead to confiscation (or destruction, or whatever), despite the pious protestations of the pro-registration clique. (It would be nice to know, though, how many of the Cleveland guns were registered by criminals, wouldn't it?) A third thing you might want to keep in mind is that Cleveland is only 60 miles from Pennsylvania *Bob Bell.*

Editorials may be reprinted if credit line is given.



A black and white photograph of a man in a field. The man, on the left, is wearing a light-colored jacket and is smiling while holding a small, dark-colored dog. A larger, white dog with black spots, likely a pointer, is sitting next to him, looking towards the camera. In the foreground, a light-colored bag or cloth lies on the ground, containing several small, dark-colored birds, possibly quail or similar game. The background is a dense field of tall grass and wildflowers.

Thoughts On Pointing Dogs

By Nick Sisley

I SET MY JAW straight and pressed my teeth together in determination. The young pointer was locked on scent that seemed only feet from her quivering, wet, black nose. My 20-bore's stock was against my ribs, the barrels canted slightly skyward. I reminded myself that I'd missed enough already this morning. Now it was time to bring down a timberdoodle, rewarding the upstart canine for her fine performance.

The foliage was dense. We'd had no killing frost. Seemed there were as many leaves that opening day in October as there had been in August when training season started. On the previous shots there had been only scant chances to score. The woodcock seemed to have blazing speed, but the main problem was they could disappear behind the extra-thick foliage so quickly.

I walked up past Magic (short for Grouse Magic) until I reached the too-close point. The twisting timberdoodle launched directly upward like a Canaveral rocket. This time I had a clear shot as he towered above the crab-apple trees, and the 8s found their way to the target.

"Fetch," I instructed the two-year-old. That was all the encouragement she needed. In a flash she was returning with the bird, eyes bright, tail high, body swaying like a proud, strutting general. At that moment she figured she was Miss America of the Canine Corps. Well, I'd have given her my vote.

Overpowering Scent

Moments later the dog skidded in the bottom's black mud, responding again to the overpowering scent of woodcock in the alders ahead. I circled and walked in head-on this time. The bird came up between us, again launching straight. When it reached the apex, it turned on the afterburners and jinked over my head. The bird was too close to fire when it was directly above, so I turned. I'm sure few pellets struck their intended mark, but one or two must have. The bird fluttered down with a broken wing. Magic snuffed it out of the dense cover.

I checked my watch. It was 8:30 a.m. Shooting time had started just before 7 in my area. I remember sitting in my pickup until several minutes past shooting time, just to be safe. In 90 minutes, Magic had turned in seven solid points on woodcock, and I had seen or heard no less than twenty flushes. It has to go down as one of the most memorable opening mornings I've ever had. As much as the bird finding and shooting added to the thrills of the day, it was the dog's performance that I remember most. What satisfaction I find in working with pointing dogs, bringing out their best, overlooking and/or trying to eliminate their faults, making them staunch on birds—there's so much involved that when a hunter experiences a day when there are lots of game encounters and all the past training jells, it's a day to remember with relish.

Range

Training pointing dogs is a subject that takes years to understand. Entire books have been written about the particulars, but between experts there's still plenty of controversy about how the best pointing dogs should perform. These disagreements are fine, however. If one gent likes a dog to range, he'll never be satisfied with one that doesn't, no matter how many birds that dog might help put in his master's hunting coat. The test of acceptable performance in the field must be given by you, the dog's owner. If the dog performs to your satisfaction, then he's exactly what you want—though that's not to say you won't change your mind as you grow older and gain more experience.

Not too many years ago I preferred a fairly wide ranging dog. Recently I've decided my canine must be much closer if I expect a reasonable degree of success, especially on grouse. Today's ruffed grouse are a little different than they were even a decade ago. They're just a little more wary, more difficult to approach. Today's grouse often flushes even farther away. Grouse have been wary in Pennsylvania for years, and every season we encounter those wild flushes, where the bird is heard and not seen. Nowadays there are simply more



GROUSE MAGIC ON POINT in thicket—a place such as Sisley advises hunters to take their young dogs.

wary ones than I've ever known before.

To overcome this tendency, I've been keeping my dogs in closer. I still get a thrill from seeing a dog charge through the cover with wild abandon, but I feel certain this type of dog flushes more birds than one that moves a little slower. It's not necessarily that a hard-driving dog smells game, then has it flushed before he can get stopped. In many cases the game flushes even before the fast mover can smell the grouse! A more cautious approach will cause fewer wild flushes, and the dog will be moving at a pace more suited to the power of his nose.

Grouse numbers vary from year to year, but since I've been requiring my pointing dogs to stay in closer, I'm not only counting more flushes, I'm also getting more shots and the dogs are encountering more opportunities to point the quarry. Like many grouse hunters, I keep a gunning log, so it's easy to leaf back through the years and verify this point.

There are other ways to encounter more game when it is extra wary. I've switched to a quieter, softer-sounding bell. Now that my dogs don't range so far, I don't need the loud clanger I found necessary a few years ago. I also try to eliminate talking to the dog as much as possible. If you're yelling at

the dog constantly, wary birds emerge from the resting, squatting position to the upright, ready-to-fly position. If I do speak to the dogs, it's with a brief, harsh, one-word command. They must be taught to obey instantly every time you speak. It takes work, but the results are worth it.

There's little need to have the dog range toward the front. You'll be walking that way yourself. The dog will be performing better in your behalf if you train him to work toward the sides, scenting and pointing the birds that are not in your path. On many occasions last season, I had to alter my course and go to a dog that had pointed off to the left or right. This happened on both grouse and woodcock, and even once on a ringneck.

Following up each grouse flush is extremely important to consistent success. When birds are extra wary and sometimes flushing in front of a dog that ranges, the hunter doesn't even know these birds have flown. But if the dog is kept in closer, more of these wild-flushing birds are heard or seen, so they can be followed up. Occasionally, we even get a shot at such birds that won't hold for the pointing dog.

We were working a steep hillside, a conglomeration of briars, devil's club,

allen treetops and early second growth. It had produced grouse in the past, and though this was the first day we'd hunted that patch during the season, I knew there would be birds in this perfect covert. My nine-year-old pointer Star had the assignment. We had experienced unstable weather all day—misting rain, high winds in the morning—and now it was dull and dreary with a heavy overcast. The grouse were running. I knew that because extra-cautious Star was pointing and moving ahead time after time. Not only were those birds running, it was one of those days when their usual roaring wingbeats were semi-silent on the flush. During that afternoon hunt lasting less than three hours, Star and I had 15 grouse in the air, but I never fired a shot.

Weather Conditions

It was the weather conditions that made those birds almost impossible. Neither Star nor I was to blame. But now at least I knew the birds were there. Three days later, Magic and I hunted the same patch on a sunny afternoon when the leaves offered quiet walking. In less than two hours we had 13 birds up, and I had two grouse gracing the old hunting coat as I walked back to the truck with Magic at heel. Same patch, same grouse, same hunter—but different weather conditions. You can't expect banner performance from dogs when weather conditions are against them.

Of course, most of us can't pick and choose our hunting days. When we're off work and can sneak out on the home chores, we hunt, regardless of weather. On bad days all you can do is persevere. But if you can arrange some of your hunts to coincide with good weather conditions, you'll encounter more success. Here's a suggestion. Sometimes mornings are bad—windy, rainy, frontal system passing through. Check the weather report. Maybe the weather is scheduled to stabilize in the afternoon. Spend the morning performing those home chores, then maybe you'll encounter one of those afternoons when the memories can be relished. Listen to the weather report

at night, too. Maybe the weather will be fine the next morning, but a bad frontal system is slated to pass through your area just after noon. Don't sleep in the next morning. Be at the cover for first shooting light. Many times game moves around and feeds just before a weather front. You and your dog will improve your chances of encountering game if you take advantage of good weather conditions.

Early Season Training

Last summer I made a mistake. I always run my dogs in weedfields for pheasants starting on August 1. Taking advantage of cool evenings last summer, I'd take all my dogs for an open weedfield exercise session day after day. I had them in super physical condition, but should have realized how wide they were running. In early October, after two months of running in those weedfields, I took the dogs to Michigan for a week of thick-country grouse and woodcock, warming up for our season here in Pennsylvania.

The pointing dogs gave me fits in the Wolverine State. They wanted to get

SISLEY ACCEPTS grouse from Tim, though Magic looks as if she's trying to help. Eagerness like this is one of the pluses that often comes with well-trained dogs.



out and hunt in the next county, not in the little patch of alders or aspen I'd selected. It took a lot of hard work to tame those canines down and make them understand they had to stay in closer. Had I let those dogs run the weedfields and find the young pheasants for the first three weeks in August, then taken them to the woods and thick bottoms for further training, as I've done every other year, I'd have enjoyed that Michigan trip a lot more.

Actually, one of my dogs didn't make the transition. Tim (short for Timberdoodle) sat out most of the Pennsylvania season because he wanted to range too far. I had to retrain him after our bird season ended. It was only a stroke of good fortune that I had two other pointing dogs in the backyard kennel.

Get In Where The Game Is

On a number of occasions I've been with hunters who liked to walk the paths and tram roads while they encouraged their young pointing dogs to forge into the brush. To a man they'd become irritated and impatient because the dogs never did. The dogs would want to run down the path, or be happy to walk at their masters' heels after being yelled at.

The way to teach youngsters where to hunt is to get in there and bust brush yourself. Not once in awhile—get in the thick stuff until the dog has at least three seasons under his belt. From then on experience will tell him where to hunt. Maybe then you can take the easier walking, hoping for an occasional easy shot. If you keep careful records, you'll find you encounter more game and get more shooting when both you and the dog are forging through the thick stuff, though.

Finding Those Dead Birds

One day last season I was working a vine tangle at the base of an old stripmine. Magic and I had just flushed a grouse, but there was no opportunity for shooting. She stayed behind, filling her nostrils with scent from the bird just departed, while I kept walking forward. Another grouse thundered out of the next tangle. I sent that one flutter-

ing down with the second shot out of my lightweight Franchi autoloader. Obviously the bird was hit, but maybe not too badly.

I had a time getting up over the steep strippile bank. There was nothing to grab, so I'd take three steps up and slip back two. Finally I made it to the top and hurried to the area where I figured the bird came down, encouraging Magic with, "Dead bird, dead bird." She kept wanting to reach farther out but I kept coaxing her back. After awhile she got away, with me hoping she was hot on the trail of that running cripple.

She wasn't. When she finally did return, I walked back to the brow of the strip bank and looked over the side, trying to figure exactly where I had stood when I shot and exactly where the bird had flown. This is always an excellent idea if you can't find a bird you've brought down. How can you expect the dog to make a retrieve if you don't put her in the area of the fall?

Immediately I discovered that I had been looking too far to the right. Seconds later I found feathers on the ground, then a trail of more feathers. Finally I put Magic on the right track, and she had the grouse sniffed out in seconds. Actually the bird was sitting in plain view, not under any cover at all. I'd simply put the dog to work at the wrong place.

Another day. This time I broke the bird's wing. The cover was super thick. I ran forward to grab the bird because Magic was off to the side. Ruff escaped and I next saw him on top of a log pile. There were too many vines and briars. I simply couldn't get to him. He disappeared under a tangle of fallen logs. Finally Magic came in, got on the trail, and I thought she'd have him in no time. Not so. She went off on a tangent, working like a demon down through the hollow laden with deadfalls for 50 more yards. At first I thought she was on the bird's trail, but she returned without it.

Again I encouraged her with "Dead bird!", putting my hand near the ground where I'd last seen the cripple. This time she took the trail for ten yards—went directly to the grouse and



BRINGING BACK A fine grouse is a highlight of any day—for both hunter and dog.

ound it under a mass of logs. What a feeling of elation. Not only did we retrieve a bird that might have been lost, but moments shared with a young dog like that are remembered year after year.

I know some fellows have dogs that never lose a bird. Unfortunately, I lose a few, as I'm sure most occasionally do. I remember one point last year. Magic whipped around at the edge of a crab-apple thicket, her head pointing back toward her tail. I only took a few steps and the bird went out low, staying under the limbs. It was a difficult shot, with the bird only about 18 inches off the ground, but I got lucky. Just as I shot, a second grouse took out from a tree overhead—departing in the opposite direction. Though I didn't get a shot at that one, I took my eyes off the one I had just brought down.

At the time I thought it would be no problem. There was little if any ground cover under the low crabs for the bird to hide in. Surely Magic would have him in seconds. She somehow didn't see the first bird, but she did glimpse the second that had launched from the tree. I took her right to the spot where the grouse had come down, maybe 15 yards from her point, but she never got a whiff of scent. I couldn't find a single

feather, either. I spent 40 minutes scouring the area and telling the dog, "Dead bird." She never once indicated she smelled anything interesting. Now I know that bird came down. I saw it. But where did it go? Maybe it took off again as I turned to watch the other grouse flush from the tree perch, but I should have heard it. Anyway, why couldn't the dog smell where it landed? Guess I'll never know.

Summary

Late in November we had one of those spectacular fall afternoons. The clouds started disappearing. The sky turned a brilliant blue. The grouse that had been running during the morning changed character. They sat tighter under log jams and vine tangles. They waited longer while I walked in on each point. I was using Star that sojourn. I lost track of the number of solid points. We did have 19 grouse in the air in less than four hours. She pointed at least half of them.

The second point was a followup of the first, the bird flying up a steep hill. These uphill fliers never go far. It was thick slashing, but I felt I had a good line on that bird. Though I seldom do it, I kept Star at heel. I had encountered a wild flusher in this part of



THIS IS Timberdoodle—the dog!—with a trio of timberdoodles and one of Sisley's favorite upland game guns, a perfect wrapup for a perfect day.

the cover the two previous times I'd been through the patch. He always ran a long ways before flushing. On the first flush, the dog had pointed and moved up four or five times, indicating another runner. He flushed wild, and I wondered if it wasn't the same old bird that had been giving me fits.

When I reached the top of the hill I turned Star loose, directing her into a large vine and briar tangle. She went no more than a dozen feet before locking solid. I don't think I took one step

before the bird thundered out. I sent him spinning, and he landed on the far side of the tangle with his wings beating fiercely. I kept the dog at heel as I went around to the bird. When I found him his ruff and regal feathers were shimmering in the afternoon sunlight. He was a huge cock grouse with extra long tail feathers and bright orange spots above each eye. How I wish I could have "put him back" like the bass and trout I'd fooled last spring and summer.

On the last point of the day Star and I were working another reflush, and again the bird was running. Star kept moving ahead and pointing, while I tried to keep up. Finally she locked about 50 feet from the edge of the slashing. A mowed gas line right-of-way lay beyond. I made a beeline for the gas line, but at a tangent to the dog. I hoped that tactic would avoid flushing the bird prematurely. I emerged onto the open line, then hurried down to the dog. She was still holding. She moved ahead a little bit and froze a second time. I waited, hoping the bird would flush, but it sat tight. Finally I entered the slash edge. A few steps later the bird erupted, trying to escape across the right-of-way. On the skeet field it was a high house three. The pellets found their mark, and the second grouse, which filled my limit, was thrashing his wings on the ground, stirring the fallen leaves for the last time. Star had done her part. I had done mine. The grouse had done his.



WATERCOLOR painting of a drake hooded merganser in full breeding plumage by Albert Earl Gilbert, Washington, Conn., won the 1978-79 duck stamp competition. Revenues from sale of stamps are used to buy wetland habitat under a program administered by the U.S. Fish and Wildlife Service.



A hunter's notebook helps . . .

The Art of Remembering

By Paul J. Rundell

MY WIFE sometimes accuses me of purposely forgetting things. Once, she suggested I actually cultivate forgetfulness because it permits me to ignore certain household chores or social obligations. There may be some truth to these allegations. At any rate, I do admit to a less than perfect memory. Consequently, I have found it a good idea to write down certain things.

The hunter, like other mortals, is prone to forget. The passing of time blurs the memory of a pleasant day afield, and in the overlay of the years experiences can be lost forever. This need not happen if some sort of written account is kept. But beyond the richness and color of a recaptured moment, a careful record of a good day's hunt can reveal the circumstances that produced it, perhaps pointing the way to more successful days ahead.

For a number of years I have kept a notebook in which I record my hunting experiences. This slightly tattered document is more than a diary because it contains more than words. It may

contain a scrap of topographic map with a penciled X marking a productive alder thicket or an old stone fence covered with grapevines where I flushed some early-season grouse; a few scrawled notations about the weather, the date, my hunting companions, the number of birds we moved or shot; a few feathers from a wood duck, saved for a fly-tying friend; the description of a mushroom I could not identify and intended to look up later. The wealth of a hunter's experience consists of many small things which would pass unnoticed before the eyes of other men.

As a grouse and woodcock hunter, I keep in my journal a record of the ratio of hits to misses and number of birds flushed. I note the weather conditions, the particular cover I have hunted, and the crop contents of grouse brought to bag. In an age when quantification has invaded every area of human activity, these statistics of mine are a personal thing, intended to impress or compete with no one and serve only to remind me of a day which can never be dupli-

cated. No matter if I have shot poorly or well, moved two birds or twenty, each hunt is a memory to be stored up and treasured and summoned forth when one is looking back at seasons past or ahead to seasons yet to come.

My journal serves to remind me of how imperfect and selective my recollections really are. There is a tendency to remember the good days and forget the bad. This is a perfectly normal and healthy thing to do, but constant comparison of the present with the best of the past can lead to frustration. If after moving three birds in two days I despair of the quality of my hunting, I go to my journal and am reminded that there were birdless days then as well.

A journal can be as simple or elaborate as you care to make it. Mine is a medium-size notebook, containing only the data I have described and, if I have hunted unfamiliar ground, a part of a topo map which ensures I will be able to find the right spots again. If I have no map of the area, I sketch one, carefully consulting my compass to determine direction and noting landmarks and physical features. By recording this information I will be able to find the area again. I take note of weather conditions and availability of wildlife foods because they are important factors in the abundance and location of game species. A hunter's notebook gives you the opportunity to evaluate the relationship among these variables and will provide a key to understanding the

species you are hunting at any time.

Certain conventions should be observed when sketching your own maps. An arrow indicating north must always be present, and relationships between distances on paper should correspond to those on the ground as closely as you can estimate them. For convenience, the scale you choose should permit you to draw your entire map on one sheet of paper. I like to incorporate certain features of topographic maps into my hand-drawn ones; relief lines showing steep grades, streams, symbols for marshes, and so forth.

Now it is evening and I sit in front of the fire, reading my journal. Tongues of flame flicker about the fireplace logs and grow longer. As I turn the frayed pages, I can once again feel the cold rain of that late November afternoon when I killed my first buck; I can smell the rich autumn smells of ripe apples, oiled leather, and woodsmoke; I hear the sudden clatter of a grouse and see the barrels of the double swinging smoothly through the bird and feel the sharp jolt of the butt against my shoulder. Sometimes there is the disappointment of an opportunity missed, but often enough there is the quiet satisfaction of a good shot. I look deeper into the fire and realize that each season brings another opening day, and it will all begin again.

As long as there is hunting there will be memories. And there will always be men who understand the importance of remembering.

Quick Pemmican

Here is a quick way of making a tasty, energy packed snack to carry in your pocket while deer hunting, a modern version of pemmican which can be made from items found in your local supermarket. You will need two small packets of dried chipped beef (approximately 6 oz.), one can of roasted peanuts (approximately 6 oz.), one cup of seedless raisins, and 8–10 oz. of beef suet. Dry the chipped beef a little more, spreading it out on a cookie sheet in an open oven at 140 degrees for 20–30 minutes with the door ajar to let the

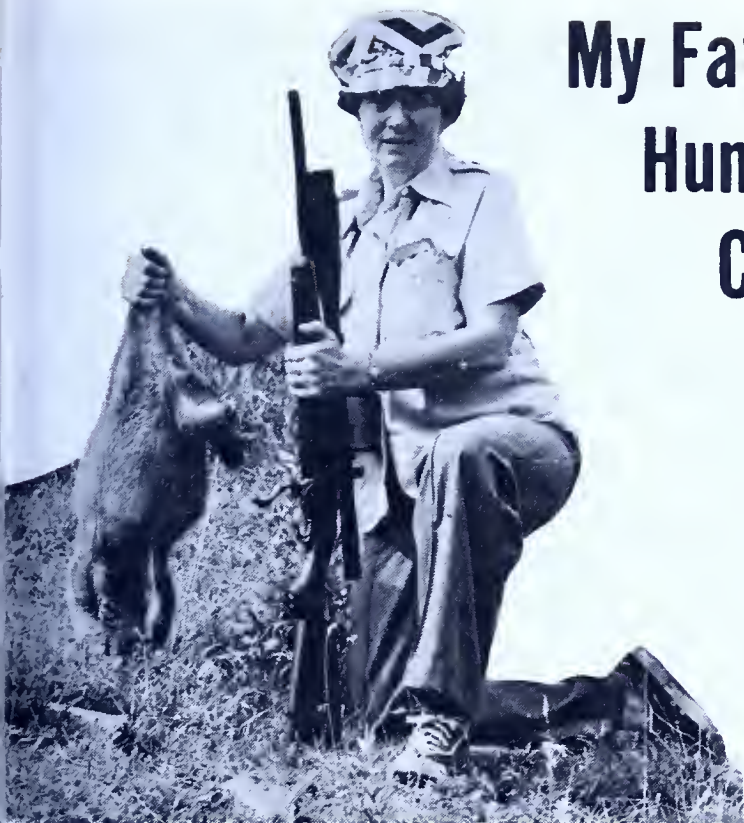
moisture escape. Chop the peanuts, raisins, and chipped beef in a blender, small quantities at a time. Melt the suet in a frying pan over low heat, and pour over dry ingredients. Mix well, and spread out evenly in a shallow pan. Refrigerate until the pemmican is hard, then cut into convenient size pieces. A 1" × 2" × 2" piece will weigh about 2 ounces and furnish about 250 calories. Wrap with plastic wrap and aluminum foil. Bars will keep in your freezer for a year or more.

Paul Kelsey

GAME NEWS

My Favorite Hunting Companion

By Don Lewis



“WE’RE IN LUCK,” I told my wife, Helen. “I can’t see a parked car, so it looks like we have the whole area to ourselves.”

“Isn’t this where we saw the big chuck on the slab pile that took off like a rocket when we came on the scene?”

“That’s right. I figure that old-timer weighed over twelve pounds, but I doubt if he’s still around since that was two months ago.”

“I’m not interested in how old a chuck is, I just want to plant the crosshairs on it,” Helen said emphatically. “Come to think of it, that slab pile is a long way from the fencerow at the end of this field.”

“It has to be close to 300 yards, but there isn’t much wind, and I think this new load will handle that distance with ease.”

We reached the forgotten fencerow, found a position under an old wild cherry tree, and began surveying a sloping pasture that ran to a woods below. Some years before, the timber had been removed, and the remains of the slab and sawdust piles stood as mute reminders of what was once a prosperous business in this area. We

carefully glassed the entire field, especially along the edge of the woods, and concentrated heavily on the slab pile. Nothing showed.

“I think we have this field to ourselves because there’s nothing in it,” Helen commented with a touch of sarcasm. “Probably every chuck’s been shot.”

“That can’t be the case,” I reminded her. “In thirty years of chuck hunting, we’ve never seen a field completely shot out. There are chucks in that woods, and that puts chucks in the slab pile.”

Finally, I made out a chuck head protruding from the pile, but it was in front of a white slab that made it hard to see. I told Helen where it was and we both studied it through our binoculars. We both have to agree that what we are going to shoot at is definitely legal game. When the chuck ducked down in the slabs and then showed again, it didn’t take Helen long to push the shooting rod into the soft earth and line up on him.

Earlier that year, I had obtained a custom 25-06 Improved (then known as a 25 Niedner—the 25-06 was still years



from being standardized by Remington) that gave every indication of being a top long-range chuck rifle. I installed a 10x Weaver and spent a number of evenings on the range and reloading bench searching for the best primer/powder/bullet combination. I finally settled for the 9½ Remington primer and 60 grains of 4831 behind a 75-grain Sierra hollow-point bullet. It was a lighter bullet than I wanted for extra long range shooting, but it gave impressive groups at 100 yards when I fire formed my cases to the sharper neck angle of the Improved case.

Helen had sighted the wildcat outfit in 2½" high at 100 yards, which should allow a dead-on hold at 300. I watched with admiration as she dug deeper into a sitting position, knowing that if we had the trajectory figured correctly, it would be curtains for the chuck. I had just relocated the target when the whip-like crack of the rifle broke the evening stillness. The sharp crack made me blink, and when I got organized again, there was no sign of the whistlepig.

"Darned if I didn't overshoot," Helen muttered. "I never did like shooting downhill, but I can't see any mark on the slab."

"I can't be of much help either," I replied, and explained what happened. "We'll not find out until we take a look."

Well-Aimed Shot

Before we could make a move, Helen spotted a chuck going up the slab pile, and it stopped on top long enough for her to get off a well-aimed shot. There was no doubt about this one; it dropped instantly and rolled off the slab pile, to lie motionless.

"Nice shooting," I nearly yelled.

"I know I got that one," Helen said. "I even heard the bullet hit."

We walked across the pasture and immediately found the second chuck she had shot at. It had met a quick demise from a neck shot. As I was examining the effects the hollow-point bullet had produced over the long range, I was startled by an exclamation from Helen, who was pointing into the pile of decaying slabs. Seconds later, I

extracted a monstrous chuck that had been dropped with a perfect head shot—the first one she had fired at. I was a most happy and proud husband as we lugged the two big chucks back to the car.

I guess I'm fortunate to have a hunting wife. Normally, the distaff side of the family doesn't get much attention or consideration from the male hunting fraternity. I sure am not all steamed up about equal rights and the like, but I know from several decades of hunting with the supposedly weaker sex that the delicate finger of a female can touch off a rifle's trigger just as precisely as that of a 200-pound truck driver. Unfortunately for me, Helen is never bothered with thoughts about excessive parallax, wind drift, ballistic coefficients and the other ballistic dilemmas that plague my shooting. Completely ignoring these serious complexities, she continues to connect time after time. It's sometimes embarrassing.

There's no question Helen is a fine varmint and squirrel shot. She makes no claims with the shotgun or big game rifle, even though she has done impressive benchrest shooting with cartridges up to the 338 Magnum. The fact is, she enjoys shooting and she likes to hunt. My first gift to her was a Remington 511 22 rimfire. She became highly skilled with this outfit, and often could topple a chuck from the offhand position up to 75 yards through the open sights.

Prior to our marriage, Helen lived in the tiny village of Hooks Station, situated on the shore of the Allegheny River, and we hunted everything from chucks to copperheads. Back in those money-starved days, yacht owners from the Pittsburgh area dropped anchor there to get fresh water and live bait. Since we were among the poor folk, some of these affluent souls would impress us with their complete disregard for money, and this led to an amusing incident.

One brash yacht owner kept poking fun at us for being "backwoodsy," and told Helen she ought to quit hunting and fishing for her meals and come to the big city. He laughed uproariously when he learned the 22 rimfire in our

little homemade boat belonged to her. He teased her about not being able to shoot, and finally whipped out his pocket watch, planted it against a dead stump some 40 yards away, and invited her to show him what she could do. Helen was understandably apprehensive about shooting at a real watch, but I nodded for her to give it a try, knowing full well what would happen.

Annie Oakley

This fellow's wife admonished him for being so careless with his birthday gift from her, but he assured her it was in no danger at that distance. In fact, he said, since it didn't look like a squirrel's head, Helen wouldn't think she was out getting breakfast. A wide smile crossed his face when Helen dropped into a kneeling position, and there was complete silence while she aimed and fired. I don't know how many pieces are in a watch, but I saw several spiraling through the air and one had the distinct sound of a mainspring heading toward the river. As we rowed away, there were positive sounds of a domestic problem on shore. His plaintive "How did I know she was an Annie Oakley?" will stick in my mind forever.

Helen has all the qualifications to become a "trout fisherman" type of hunter. On one rabbit hunt, our beagle Rip sent a cottontail past me so fast I couldn't get a shot. When it passed Helen, she managed to fling a shot the instant the 20-gauge hit her shoulder. When I pulled the dead rabbit out from under a pine tree, Helen commented with a straight face she that she'd had a problem getting the proper lead on the speeding rabbit. What could I say?

I'm a lucky fellow to have a wife for a hunting companion. Sometimes at my insistence the dishes aren't washed on schedule or other chores done on time, but those things aren't nearly as much fun as when we are trying to outsmart a wily gray squirrel or get in front of a rabbit the dog is chasing. Her most admirable trait is the fact she is unpretentious. She lays no claims to being a ballistics buff or being knowledgeable about the woods or the creatures in it. Her ability to read woods signs stops with a set of rabbit tracks. Yet, she

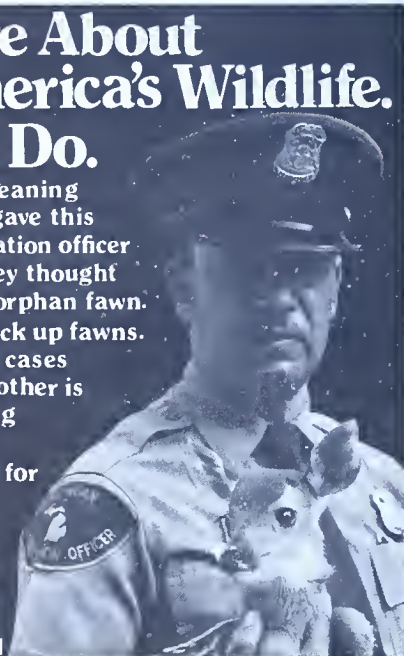
usually hits what she shoots at and she enjoys the outdoors to the fullest.

For more than three decades we have hunted together, and I still stand in awe at her ability to shoot a rifle. She has made so many fine offhand shots up to 150 yards that I can't remember them. Success has often eluded us, but there wasn't a time we didn't have fun. As a gunwriter, I'm blessed to have Helen. She has helped my writing career in a dozen ways, from taking fine photos to doing impressive benchrest testing, and those two things are very essential to a gunwriter.

Love is a growing process that must be nurtured to maturity through the years. Our marriage has spanned more than three decades because we have a deep and abiding faith in each other. We have had our share of life's realities, and have stood on the brightest hilltops and in the darkest valleys, but these are the ingredients necessary to solidify a marriage. Hunting and shooting have been paramount factors in our happiness, and from my point of view, I have a very pretty and highly competent hunting pardner. . . .

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A well meaning
person gave this
conservation officer
what they thought
was an orphan fawn.
Don't pick up fawns.
In most cases
their mother is
watching
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leave.



Pennsylvania Game Commission
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UNCLEISM

And Its Contagious Simple Side Effects

By Kenneth Rockwell

THE FIRST YEAR I went huntin', I went with my uncles, Frank, Jim and Walker. They were the best darned squirrel hunters in the county. They had their own way of doing everything. Why, some of 'em had even been in the Army!

I was only twelve years old, but boy, was I smart. They thought I was a man and I never told them any different. "Heck, yeh, he can shoot that gun," Frank said. "Here, smack my hand." That was Frank's way of showing how tough you were. If you hit it real hard he could gauge pretty well by what he felt on his end. Although he was the youngest uncle, his opinion was pretty well respected. I knew I had to hit it with all the power I could muster, if I was to shoot the "12-gauge". You see, they were considering letting me use an "extra" 12-gauge they had layin' around, for the first day of squirrel season.

It was a single barrel breakdown gun that would fly apart about every other time you shot it. I think I spent more time lookin' for that darn forearm than I did for squirrel. But it was still a 12-gauge, and it would put me in the same league they were in.

So I hauled off and hit his hand with a bone-jarring blow. My slightly diminutive fist, coming in contact with Frank's hand, came to an abrupt halt. My heels then began to rise slightly as an excruciating pain starting at my knuckles, worked its way to my dumbfounded brain. If he felt what I felt, I knew I had no worry in getting the use of that ole 12. Trouble was, I'd probably have to shoot it with my feet, being that I couldn't feel exactly where my arm was.

Just when I thought I had it made, Jim said "I don't know, Shank," (they called Frank, Shank) "better let me see that again." It was kinda understood



I DIDN'T SIT on that log for ten minutes before a big squirrel leaped onto the side of a shagbark hickory and began wavin' his tail like he was tryin' to get rid of it.

that Jim had to be lookin' for it to count, but he was always rollin' a cigarette or something. He was about three up the ladder from the youngest, but his opinion was well respected.

"I don't know, Jim," Frank said. "That boy's got an arm on him."

I was sure glad to hear that; I'd 'a swore it was still stuck on Frank's hand.



I was awarded the use of the ole 12 in the end. But only after I asked if I might have a hunk of Walker's Mail Pouch tobacco to gnaw on. He was the oldest of the three uncles I was with that day. There's eight of 'em all together.

That kinda affirmed what I already knew—I was smart. Anybody knows kids don't chew tobacco. So I figured if they give me the tobacco, then they would have to give me the gun.

I looked at that pouch of brown weeds all curled up in a knot, pulled out about a half of a handful and stuck it straight in my mouth. There was a moment when I sorta gagged a little, but I tried my best to keep it all inside. I just stood there grinning with my mouth shut. I know I was beginning to turn green. I could feel it. Besides, I knew something was happening 'cause Frank, Jim and Walker quit talkin' and started lookin'.

Their eyes began to bulge. They put their arms out and grabbed ahold of each other and started stepping slowly away. All at once they took a simultaneous leap backwards and everything I was keepin' on the inside was suddenly outside.

After awhile things quieted down. They gave me the gun. They either gave it to me out of pity or because they were afraid I'd try chewing some more tobacco. Anyway, I got it.

During the next two weeks, before huntin' season, I was schooled intensely in the proper way of hunting squirrel. Their methods were generally excellent, except for a few small items they neglected to mention. Like (1) the range you could expect a 12 gauge to drop a squirrel, and (2) there's things called grouse that live in the woods, too. A grouse is something you can't see but scares you half simple leavin' where it had been.

We decided to hunt about 10 miles from home the first day drivin' there in a '50 Ford and listening to country music. About 20 minutes before daybreak we stepped out of the car and got our guns ready. That's when I realized I'd forgotten to tape on that cockeyed forearm. I figured I'd just have to hold it a little tighter.

Since they told me to move so slow that it looked like I was standing still, it took me till about noon to get to the spot where I was gonna sit down. All the time I was sneakin', they were shootin'. I kept getting anxious but held myself back, being careful not to move in jerks. I felt like I was walkin' on a rope or something.

I'll betcha I didn't sit on that log for 10 minutes when it all started. A big fox squirrel leaped onto the side of a shagbark hickory and began wavin' his tail like he was tryin' to get rid of it. He must have been about 60 yards away, downhill. But distance didn't even enter my mind since the shell I stuck in that gun looked like half a stick of dynamite. I put the bead just a hair above him and squeezed. That squirrel looked like he was bouncin' on a trampoline. I could see him pretty good as I was flying off the log backwards. I might've missed most of the action if that grouse hadn't let me sneak up on him that way, 'cause when he left that bush I was layin' on, I did, too!

Cotton Pickin' Forearm

I now found myself standing back on the opposite side of the log, lookin' for that cotton pickin' forearm. You see, I thought my life was in danger and I was preparing to protect myself from whatever I fell on. That's when I heard the squirrel again.

He was running like he was nuts, straight at me, from behind. I know now he must have been confused at where the shot came from, but I thought he was attackin'. It even entered my mind that maybe they were all attackin'.

That's when I realized my mistake. I was movin' in jerks. I stood perfectly still, not even batting an eye. The squirrel hit an old oak about 10 feet from me and flipped right into a hole. Boy, was I relieved. I stared at that hole for a while then found the parts to the gun and left, slowly.

Halfway out of the woods I could hear Frank, Jim, and Walker up at the car talkin', I could even smell the coffee. I was dang near out of the woods when I saw him. A small gray, directly above me, trying to hide on top of a

skinny limb of a beech tree. I knew those guys had squirrels. Heck, they were the best squirrel hunters in Greene County. I couldn't leave the woods empty-handed. This was my last chance.

So after scouting the immediate area visibly, for any grouse, I got lined up on that ole gray and cocked the hammer. I felt like I was aiming crosseyed, lookin' straight up as straight can be. I put the bead where I wanted it and squeezed off on the trigger.

Busted My Nose

Since the butt of that ole 12 was restin' against the front of my chest instead of my shoulder, there was nothin' to keep it from goin' where it wanted to. It came down like a mad man and the hammer busted my nose. The limb was cut almost in two and it swung down and hit me from behind. Just then I looked up in time to get basted again in the face. By golly, that squirrel hit me smack on the forehead. But I got him, yessir, I got him.

I gathered up my squirrel, my nose, and my forearm and walked proudly out of the woods and up to the car. The sight of me caused a strange reaction in Walker, 'cause he ran down in the woods on the other side of the road and didn't reappear for 15 minutes.

I suppose my appearance was a little wild lookin', but I was grinnin' from ear to ear. I believe it was about then that Shank and Jim had experiences similar to Walker's. Their eyes bulged, they stuck their arms out from side to side and started that steppin' backwards routine. Slowly at first, then faster.

Heck, I didn't know what they were doin'. I thought they saw one of them grouses, or something, behind me. I dropped the gun and the squirrel and busted completely out of the bushes. Boy, that's when they really took off. I was doin' my best to keep up.

I found them about a half a mile

down the holler, standing on the other side of a wide creek, lookin' back. They weren't even wet. I suppose they just ran across the top of it.

It wasn't till I washed my head off that they recognized me for certain. "We must have lost him," I said. "What (phew) was it?"

"It was you," Frank said. "With that hair and stuff all over your face, you looked just like a—a—— What is that thing, Jim?"

"A mosquito-hawk-eagle."

"Yeh! That's it. A mosquito-hawk-eagle."

"What in the world is that?" I asked.

"Aw, it's something that roams these hills hereabouts. We'll tell you about it sometime."

With that, they all jumped in the water and washed off. Boy, them guys are real mountain men, I thought. Anybody that can take a bath in a creek in November must be stronger than you can imagine.

Well, it's now about 20 years later. Once again huntin' season's getting closer by the day. Me and Norm (that's my brother) was talking last night figurin' some first day strategy, when our sister's boy came over.

"If I had a gun, I'd go with you guys the first day," he said.

"Well, Brian," I said, "you'll have to do a wee more growing before you could shoot the guns we use. HA! HA!" I then winked at Norm and started rollin' me a smoke.

"What you talkin' about," Brian said. "I can shoot anything you guys can." (Kids are a bit more aggressive these days.)

I wasn't payin' too much attention. That danged cigarette was tryin' to get away from my fingers. I had it down on my knee rollin' it around when I heard ole Norm say, "Oh yeah? Smack my hand."

Some things just don't change much in these parts.

The Gigantic Jumper

The cricket frog holds a kind of world's record for the standing broad jump—forty times its own length.



THE LIGHT WASN'T RIGHT for making movies when Scott drew a bead on this timberdoodle, but that didn't stop him from shooting.

So Who Wants To Make A Movie?

By Sam Hossler

OUTDOOR WRITERS have a habit of placing their well-worn boots in that gaping void usually reserved for the intake of food. I'm no exception, so when a good friend and filmmaker from Johnstown said he would like to shoot some footage of a woodcock hunt, I piped right up and said, "Sure, no problem."

Now, I was sure we could find some birds, but having them become actors and flush on cue was another matter altogether, to say nothing of insuring the proper light conditions and decent weather. But the appointed day arrived and all I could do was hope.

Clayt Dovey, the moviemaker, plus our guide and dog handler, Lou Fruhlinger, met my son, Scott, and me in the still, dark hours of the morning. To say Clayt travels first class is probably the understatement of the shooting season. He arrived in his Winnebago, ready to go. But when I saw the amount of gear

he had brought, I could see why he travels in such a large machine. Besides, he said, "It's much nicer to come in out of the weather for lunch than sit under a tree in the rain." I couldn't argue with logic like that.

Lou loaded the dogs just as the first stringers of silver light reached skyward along the eastern horizon. It was overcast but a few patches of blue were beginning to appear here and there, which made me feel a little better.

On the other hand, Lou told us he hadn't been finding many birds in the past few days. I had visions of Clayt wrapping that lethal-looking camera around my neck, but it was too late to back out now.

We parked, let out the dogs and loaded up. Clayt unlimbered his 12-gauge pump and as if in answer to my quizzical look said, "The light isn't right just yet, I think I'll shoot a few first."

"Okay," I said. Maybe he wouldn't

be too upset if we didn't get any pictures today. I looked at the sky and saw it had cleared considerably. At least part of my guarantee would come true if we could only find some timber-doodles.

Lou put a bell on Freckles, but said the other two would work so close they wouldn't need any. In fact, the two old girls would be able to hunt only a few hours; the years had taken their toll, as they do with all of us.

Freckles immediately cast out through a crabapple thicket not fifty yards from where we parked. Suddenly, the musical tinkling of the bell stopped. A soft whistle from Lou brought no response. Here was our first point. The thicket was only a quarter-acre in size, so Scott took one side, Clayt the other, and I guarded the opening toward the road. Lou plunged into that mass of tangled branches, thorns grabbing and tearing at him every step. It didn't seem to bother him, however, as shortly he called out to see if everyone was ready. Then I heard the whirring of woodcock wings, which sent my adrenaline racing, but no darting, twisting form came rocketing out. I heard the shot. Clayt's 12-

gauge was in action. Waiting for the call of "dead bird" seemed like an eternity, but finally I heard the muffled shout, "He's over in the next patch of trees."

I wasn't sure if that meant he was dead in the next thicket or if he had flown into it unscratched. It wasn't long, however, before we all met and found the bird had gotten there under its own power. Hilga, one of the old dogs, picked up the scent first. Freckles backed her point and Lou went in for the flush. Up the bird went, cutting back over Lou and the dogs and almost taking my hat off. I'd like to say it was a tough chance, but really it was a straight going-away bird and one shot from my Franchi semi-automatic dropped it cleanly.

Shoulda Been So Lucky

I should have been so lucky on the next bird; it crossed in front of me and turned. The crossing shot I missed, even after taking a good lead, and two rapid-fire followups never ruffled a feather. Most of the leaves were already off the trees, so I couldn't blame it on poor visibility.

It wasn't long before we found another bird on the edge of a thornapple thicket. Freckles had it pinned down tight. At the flush, there was no customary spiraling upwards. This fellow shot out across the open field more like a grouse than a woodcock. Its mistake was cutting in front of Scott. His 20-gauge cracked and in the nonchalant way of youth, he called Freckles over to fetch.

We were seeing birds where there had been none the day before. The weather had turned cold and a front had come through during the night, which obviously brought birds south with it. These were flight birds, Lou said, but the big flights hadn't yet started. All I could think was that if there were any more, we couldn't reload fast enough. Although there had been a hard frost, the ground was now moist, making it easy for these long-beaked fellows to probe for their mainstay, the earthworm.

By lunchtime, we each had three birds and hadn't shot one foot of film. But Clayt had been right, it sure was



EVEN IF THE camera wasn't grinding, the dog was working, and here he brings a bird back to Scott. Some dogs don't like to retrieve woodcock, but Freckles does fine.

comfortable eating in that big motor home. After lunch, Lou suggested we try another spot where it was more open and would perhaps be easier to film.

By this time, it had clouded up again and the light readings were touch and go, but Clayt brought out the camera. Just to hedge his bet, however, he took the 12-gauge also. We did have intermittent periods of sunlight, so all we needed were more birds. That didn't take long.

On the edge of a group of hardwoods, Freckles was on a classic point. The sun even came out as if on cue. Scott took one side and I moved up the other, with Lou and Clayt moving in for the flush. Suddenly Clayt called, "I can see the bird, don't move!" At that, he zoomed the camera in, and would you believe that bird held while he jockeyed around for position. After all that, Lou said it would be a shame to kill a bird who acted so well for the camera.

Never having been known for my compassion, I said, "Boot him out of there."

Out he came, and wouldn't you know I missed. We let him go; after all that, he deserved to get away.

That afternoon was a replica of the morning's hunt. Birds were everywhere. Clayt had all the film he needed in a couple of hours and was happy to get the 12-gauge back in his hands.

By 5 o'clock, I needed only one bird to fill my limit and so did Scott; Clayt had filled out with his five. We worked down to an old apple orchard, which had grown up with weeds and brambles years ago. A small spring seeped down over the hillside, keeping the earth damp. In the dwindling light the birds became more active. Freckles was picking up new scent with almost every step. The first point was in a bramble patch near the spring. I shot almost in desperation, with thorns puncturing every part of my body. The bird flew



WHILE WOULD-BE moviemaker Clayt Dovey kibitzes, Lou Fruhlinger tells young Scott some of the natural history and habits of woodcock. Such facts make the hunting more interesting and more productive.

away, unconcerned about my wellbeing, I'm sure. Before we got to where I had marked him down, we had another point and Scott limited out.

Still trying for my last bird, I was working toward the area I had marked when a blurred shape whirled out from right beside my foot. It cut behind me and as I twisted around to swing on it, out went another, flying straight away. Two easy shots and neither bird was touched. Lou called that Freckles had my original bird pinned down; didn't I want to try for him? I thought I noted a trace of sarcasm in his voice, but undaunted, I went in for the flush. At the sound of the shot, down came my last bird.

We put up three or four more birds on the way back to the car that evening and Lou swore us to secrecy on the location. Maybe Clayt will tell, but all I'll say is it was somewhere in Somerset County. Anyway, there seemed to be a lot of long-billed actors thereabouts eager to be immortalized on film, if only someone would point a camera at 'em.



THE SHOP SMELLED OF 3-in-1 oil, Hoppe's No. 9 and other assorted goodies dear to the heart of a young but eager outdoorsman.

NICK'S BARBER SHOP

By Robert G. MacWilliams

DGP, Allegheny County

TO A NINE-YEAR-OLD boy, somewhat of a loner and given to long afternoon walks in the fields near town, Nick's Barber Shop was utopia.

Sent there once with fifty cents and orders to get my ears lowered, I entered reluctantly. The two-chair basement shop smelled immediately of 3-in-1 oil and Hoppe's No. 9. An assortment of old chairs lined the walls, tonic bottles lined the shelf and an old shampoo-and-shave sink sat in the middle of the floor.

The gun cabinet along the wall was full of Nick's old guns and supplies (like the old Parker double and the homemade single shot 22 raccoon pistol). In the corner a big old Seth Thomas marked the passing time with its slow pendulum. A deer-foot gunrack on one wall supported an old longbow and quiver of arrows. Several steel cast-

ing rods stood in the corner with the rigs still on them. Across the shelf littered with toothless combs and straight razors lay a warped eight-foot bamboo fly rod. A majestic old 10-point surveyed the room while a spider repaired its web among his antlers. The entire room was covered with just enough dust to prove it was for men only.

I sat for a long time in the chair, just listening to the magic words about hunting and fishing.

"Next."

I started, realizing that I was the only customer left; the rest were there to talk. Nick, snow-haired, gum-chewing, occasionally puffing the Chesterfield over in the ashtray, began to cut my hair. I was numbed into a comfortable trance by the vibrating Oster clippers. The talk continued and I forgot where I

was. All too soon I was done. I paid for the haircut and suddenly felt obligated to leave.

My mother was amazed when I suggested another haircut several days later. I kept after her and soon got the admittance fee. Once more I entered the wonderful shop to listen to the old men, unhurried, weaving their tales. This time I discovered a secret; Nick had candy bars in the cupboard which he sold to his patrons. After that I only needed three cents for a Lunch Bar to get in. Soon I became a steady member, a disciple of sorts. My mind absorbed details like a sponge. When the talk turned to a dull subject like politics, I turned to the piles of hunting and fishing magazines strewn about. Often victim of a joke, I was yet so eager that the ridicule didn't last long. Soon the men, most of them retired, took to "learnin' me the woods." I knew how to tie a barrel knot, what calibers to use for deer, the best dry flies for June, the size shot to use for grouse, and secret ways to tell a good hunting dog.

Fall, the golden season, would see the men off on hunts. Always there were new stories to be heard at Nick's when they returned. I would sit spell-bound as Jake and Norval told of the beagles running two rabbits at a time. Elmer ran into a bear while squirrel hunting, and Nick had to wear a turkey feather in his hair all day after Bill scored. Most of the excursions were local, but several times there were big trips to Potter County. Potter County! Why, just the way they talked about that place, it sounded like the greatest region on earth, far north of us with big mountains, clear streams and lots of game.

Nick and the boys liked to croon once in a while. Nick strummed on the painted guitar, Bill huffed on the harmonica, and crude renditions of old songs came forth. Soon they would be trying to out-bellow each other and it

was hard to tell just what song it was.

Sometimes Nick would get one of the guns out and let me handle it. As I caressed the wood, he'd describe the gun's virtues and the game he had bagged with it. By summer he was teaching me to flycast in the yard. Then Nick went to Florida for vacation. ("Wife's been after me to go . . . , besides there's good bass fishing.")

I had little to do but wait. I would go down to the barber shop, hoping to see the gang there. One day I saw a sign on the door: "Closed . . . Death in Family . . . Open two weeks". Confused and frightened inside, I went over to Elmer's house.

Funeral Tomorrow

"Nick is dead, boy. Took a heart attack down in Florida. We'll be to the funeral tomorrow." I held the tears until I got a few houses away.

The gang returned when the shop opened again. Nick's wife rented the place to a clean-cut young barber. The deer head was gone. So was the dust, the spit can, the fly rod, the magazines and everything else of importance. We had to read *Life* magazine and listen to classical music on the radio. The new man cut my hair too close and I missed the smell of pipe tobacco and Hoppe's. Nick was gone and soon the gang was gone too.

Some time later I was asked to go to Nick's home. Nick's widow presented me with his guitar and a 1944 *Hunter's Handbook* that I liked. She said the gang thought I should have them.

Many golden seasons have come and gone since those days. But the gang at Nick's had whetted a boy's appetite for the outdoors. Each encounter with nature unfolds new mysteries and causes new wonder. In that sense of innocent awe at the forces of our natural world, the man will always be a boy. And the boy in the man cherishes the warm memories of Nick's Barber Shop.

Songs From the Syrinx

Birds produce vocal sounds with the syrinx, a voice-box structure in the throat.

Neo, the Packrat

By Carsten Ahrens



IN THE PARKING area, Neo found a small comb, encrusted with rhinestones that scintillated in the moonlight. It was the find of a lifetime.

NEO WAS THE only living offspring of a female packrat who lived in the cave on my uncle's farm. Having no brother or sister to compete with for the food prepared or carried in by his mother, Neo was large for a packrat, even at the age of one month. He weighed about twelve ounces, so he was even bigger than his mother, who was bringing him seeds to augment his lessening milk diet.

While his mother was out of the cave, Neo spent much time grooming the soft silky hair over his body and tail. His head, sides, and back were a medium brown, but his chest, belly, feet,

and the underpart of his tail were gray white. His eyes were dark and luminous; his teeth, all 16 of them were white: each jaw held two sharp incisors in front and three molars for crushing and grinding on each side. His ears were a generous size, for a rat. But he especially enjoyed his long, polished, ever-reaching dark whiskers that were always twitching to keep him informed if the walls of the runway were closing in on him or if there was adequate room for moving ahead.

Being a packrat, and a vegetarian, Neo was a very live-and-let-live sort of a chap. He had been all over the cave, knew his fellow spelunkers, and interfered in no way with their activities. There were the little brown bats, hundreds of them, that clung upside down by their feet to the ceiling of the cave's main corridor. He knew the arched-backed "camel crickets" (actually wingless, long-horned grasshoppers) that inhabited the cave crevices everywhere; the eyeless, unpigmented fish and crayfish that moved absently about in the silent subterranean stream; and several families of the quarrelsome house rats who lived under the broken rock fragments that time had somehow pushed out of the corridor of the cave but which were still within the shelter of its porch-like roof. Here in inclement weather, my uncle often fed his hogs and other animals, and the house rats helped themselves to the food after the farmer and his dog, Brownie, had left the scene.

A pack- or woodrat shouldn't be confused with the house rat, often called brown or Norway rat, for the two have little in common except that they're both rodents. To begin with, Neo and the other members of his genus are native Americans; they were here centuries before there were pioneers to dream of coming to a new world. The house rats—*Rattus*—originated in the Old World, and the early

sailing ships inadvertently carried the unwanted and destructive pests to all the ports of call around the globe.

Superficially, the two groups look alike. They are about the same size: head and body 8-10 inches long plus a 6-8 inch tail. But this tail will immediately distinguish one from the other: the packrat has a well-haired tail, brown except below where the hair is lighter, even white; the tail of a house rat is naked and scaly.

The living habits of the two groups (*Neotoma* and *Rattus*) are very unlike. *Rattus* seeks to live near man, to feast on his garbage and his offal generally. It has been a vector of organisms causing the plagues that in the past swept with horrible regularity over much of the world. The packrat pays little if any attention to humans. Its diet consists of wild fruit, seeds, nuts. House rats are active around the clock; packrats are nocturnal.

Rustic Cousins

The two genera seem to have little interest in each other. It may be that the house rats, being European, look down their snouts at their distant, rustic cousins. Or it could be the other way round. Neo and his group are surely the landed gentry and could regard the newcomers as johnnies-come-lately or "furriners." Be that as it may, don't fret over some dire fate awaiting the house rats. Their reproductive activities are awesome. A female usually becomes a mother at three months, she has 10 to 12 nipples and usually needs them all, the gestation period is three weeks, and she may have 12 broods a year! Breeding statistics for packrats are less spectacular. In the North the female has two broods a year (three in the south), has a gestation period of seven weeks, and has four nipples, although only two are generally needed.

I learned about packrats when I worked summers on my uncle's farm. The cave and its inhabitants fascinated me. I often hurried to its wide, natural porch, which offered shelter to me as well as to the domestic animals in rainy or hot weather. At its edge ran a brook which we dammed to make a swimming



WHILE THE TWO hired men put their wrestling skill on the line to determine who should have the wallet, a packrat made off with it, leaving only a corncob in exchange.

hole. After a hot day of shocking wheat or making hay, a bath and swim there was a genuine pleasure. But my aunt always advised me to roll all my belongings into one secure bundle and bind it tightly with my belt. A rolled-up sock, pencil, pocketknife, or ring, left by itself, would surely disappear. True, the packrat almost always dropped whatever it was carrying—a pine cone, stick, stone—seemingly in trade or exchange for the purloined article. But from my point of view, the transaction seemed always loaded in favor of the packrat. We heard tales such as a working wristwatch being left for a spool, but I never witnessed anything like that.

The cave was extensive, with many unexplored corridors, and somewhere deep in the earth there must have been a strange treasure trove, assembled by the packrats.

One evening I took my baby brother to the pool for a bath, and we had a merry time with his floating toys and the soap. But when I was dressing him, I could find only one shoe; where the other had been, now lay a walnut! Fortunately, the home range of the animals must have been quite restricted, for they never came to house or barn to swap articles. Brownie may have been responsible for this. He was the poorest of watchdogs, welcomed hoboes and

tramps, but the farmyard was definitely off limits to strange quadrupeds.

My uncle loved to tell a story about two hired men who found a wallet. It held a number of dollar bills which each man claimed because he said he had seen the wallet first. They brought their quarrel to my uncle, who played Solomon. He knew each man considered himself to be the best wrestler on our side of the mountain, so he suggested a test of their skill. The one who first pinned the other's shoulders to the earth could claim the wallet.

No Patience

My aunt had no patience with grown men "fighting" so the men went down to the pasture by the brook and cave for the test of strength and ability. The wallet was placed on a big flat rock to be picked up by the winner. My uncle's job as referee lasted well into the twilight for the two men were evenly matched. The sun was down before the winner could claim his . . . wallet? No. The wallet had disappeared. In its place on the flat stone was a fine red corn cob!

The loser knew nothing about the packrats who lived in the cave; with coal-oil lantern and a pickax he spent his Sundays for many months searching for the cache. He acquired the sobriquet "cave man," but never found the wallet . . . or my brother's tiny shoe.

Two animals which lived in the vicinity and frequently came into the cave looking hungrily for a plump packrat were a long-eared owl, from a dense grove of ancient hemlocks farther up the slope, and a mink whose home was in the brook's rocky bank.

Neo's father had been killed by the long-eared owl. The elderly packrat, a little more than two years old at the time, put up a valiant struggle for his life. It was a dubious victory, for the winner permanently carried the marks of conflict on her leg and wing; she could no longer sit erect and her flight was erratic and less silent than the movement of an owl generally is.

Neo's brother had been captured during the third week of his life by the mink. For some reason the little packrat had not followed Neo in flight

when the strong odor of mink preceded the predator into the runway. Mother packrat had taught them where to flee in a crisis, for the cave was a tangle of water-hollowed passages, many of them wide enough to accomodate a packrat but too narrow even for an elastic mink. When it's carnivore vs. herbivore, the vigilance of the latter must be constant and tireless.

Neo was two months old when the first breath of autumn began reddening the sumac leaves. He was filled with a new restlessness that caused him to quit the cave to follow the brook. He traveled, of course, by night ever up and up the slope. The brook became smaller and smaller until it was just a rill that finally disappeared into a bubbling spring, but Neo continued on toward the crest of the mountain. He left the trees behind. The rocky summit was roughly carpeted with wind-pruned blueberry growths still heavy with delicious, drying fruit.

He crossed a road that wound up from the valley. People drove miles to the lookout here for spectacular views. The parking circle was deserted but Neo found a small comb, encrusted with rhinestones that scintillated in the moonlight. It was the find of a lifetime.

For some time, Neo had been passing mounds of accumulated treasure, each with a packrat collector nearby. None sought to bar his way or attempted to force him to yield up his rhinestones. He continued to the cliff's very edge, where he found Flora, a silky packrat almost as big as he was.

Weary Neo

Flora welcomed the weary Neo. The view so many mortals came to see was completely ignored by them. She led him to her cache on a finger of rock overhanging the abyss, and he magnanimously added his gleaming find to her collection, taking a mere bird's dried legbone in exchange. Then to his relief they returned to the solid cliff.

They rubbed whiskers. Flora had long, polished whiskers, too. Neo relaxed. This was living—mountain-top living. Home in the cave had been nothing like this.



Laurel Mountains: Pennsylvania Paradise

By Joe Luxbacher

BEGINNING AT OHIOPYLE State Park, the Laurel Mountain Hiking Trail offers to those who seek it a rich and rewarding experience with nature. Winding along for seventy-odd miles through the heart of the Laurel Mountains, the trail provides a variety of natural settings before reaching its termination point at the Conemaugh River near Seward.

Valleys cut by small, sparkling streams gradually lead upwards to higher elevations as the trail follows the ridges of the Laurel Mountains. At several points along the route, rock overlooks allow breathtaking views of the Youghiogheny River as it meanders along in the valley below. Those seeking the peace and solitude that hiking can offer will treasure the richness and beauty of the Laurel Mountains.

I have been an outdoor enthusiast for just about as long as I can remember. The exhilarating feeling of being a part of nature rather than ruler over it has persisted within me since I was a youth. In recent years I have been fortunate enough to visit various sections of the country and observe firsthand their natural beauty. The mountains of New Hampshire and Maine, especially Mt. Washington, provide excellent hiking and camping opportunities for Easterners. The Rocky Mountains of Montana and Wyoming are majestic as they rise to heights unparalleled by Eastern mountains. The Great Smoky Mountains of Tennessee harbor an array of colorful plant life that pleases the eye. These areas and others like them have great appeal for Pennsylvanians who wish to spend time in



JOE LUXBACHER takes break on log bridge during winter hike in Laurel Mountains. Rhododendron made nice contrast against white snow in rugged area.

the great outdoors. So extensively have those areas been promoted and publicized that many native Pennsylvanians seem to forget that our own woodlands offer us a great variety of plant and animal life. Such was the case with me. In my anticipation of traveling to remote areas of the United States, I completely overlooked Pennsylvania's natural beauty.

When a friend suggested that we plan a hike through the Laurel Mountains I was a little dubious of his idea. I was interested in a trip away from civilization, not a stroll through a city park. Never have my expectations been more wrong! Our time on the trail convinced me that the Laurel Mountains expose the hiker to variety of plants, animals, and landforms that would be hard to find anywhere else. The realization that right here in our own backyard exist some of the most beautiful outdoor areas in the country was a pleasant one for me. Since my first trip I have taken several more hikes along the Laurel Highlands Trail and have become even

more impressed with the beautiful scenery that it offers.

Each season of the year provides a different setting for the outdoorsman. Spring thaws leave much of the ground damp but covered with an abundance of colorful wildflowers. Summer finds the mountains thick with vegetation, especially mountain laurel and rhododendron. The hot, humid summer climate sometimes makes hiking difficult for those who are not physically prepared. Fall may be the best season for taking pictures, since a wide variety of leaf colors exist in October and early November.

Winter hiking provides a totally different type of environment. Snow usually covers most of the land during the winter months. The hardy people who have walked the trails during the cold months probably would agree that some of the most spectacular scenery is found in the snow-covered mountains. Winter may also be the best time for observing the wildlife that inhabits the area. Birdlife is rich and varied, and the lucky traveler may glimpse a white-tailed deer, its brown coat contrasting with the white landscape.

Whatever your choice of seasons, each provides variety and beauty. One-day hikes are common for many people, though overnight camping is possible at specific locations. Shelters for camping have been constructed at various intervals along the Laurel Highlands Trail.

The opportunity is there if you want to get away from the hectic activities of everyday life and realize the serenity that a walk in the woods can provide. The old saying that "The grass is always greener in the other fellow's yard" does not hold true in our case. Some of the most beautiful outdoor areas in the country are found right here in our own home state. The Laurel Mountains are such an area and anyone who ventures along these trails can only benefit from the experience.

Gets the Job Done, Though

The parrot does not build a nest but lays its eggs in the soft dust that accumulates at the bottom of the trunks of decayed trees.



I WAS TO FOLLOW THE PATH of family tradition, that of the hunter, handed down from generation to generation over the centuries.

My First Impression

By Dave Wolf

IT HAS BEEN said time and again that first impressions are lasting ones. This applies to meeting someone for the first time, tasting a new food, or trying a new sport. I feel first impressions of hunting have a lasting effect as well, and can go a long way in molding the hunter of the future.

My first hunt unfolded some seventeen years ago, in the broad expanse of then unposted, farm-rich Lebanon County. I was to follow the path of family tradition, that of the hunter, handed down from generation to generation over the course of centuries.

This particular day, three generations were to go afield in pursuit of cottontails and pheasants. I knew we would each be enriched by the experience.

But it began long before that day, the day I reached the golden age of twelve. I was a mere five years old the first time the buttplate of a single shot 22 came to my shoulder and I touched off my first shot at a rusty tin can. From that day forth, shooting under the strict supervision of my father was a weekly occurrence. I was taught the potential of my firearm, plus respect for and safe use of the same.

Training season for our fine beagles found me afield day after day. I learned to love the song of the beagle long before I reached hunting age. I sat on the edge of my seat as hunting tales were swapped constantly by the men of the family, absorbing every bit of information I could acquire. I ate of the wild game meat my grandmother prepared for our evening meals. I couldn't

The Game Law Violator Is Stealing From You

wait for the day when I would be afield with them, not only sharing their experience but also creating my own.

By the time I reached the edge of that field on my first day, the frost glistening before me, I was prime. I had the feeling that I'd been there before, the single-shot 410 familiar feeling in my arms. I was not the least bit surprised that my grandfather checked to be sure the hammer was in the half-cock position.

I listened intently as explicit instructions were given. "I'll flank your right," my father said, "your grandfather will be on your left. You will shoot straight ahead only, and keep an eye on the dogs at all times, especially before shooting. Remember to always keep your gun pointed in a safe direction."

Lindy, our lead dog, was now unleashed, with two younger ones. They were every bit as excited as I was. As long as I live I will remember that first step as we entered the harvested grain field—the excitement and anticipation of a twelve-year-old which has not diminished over all the years I have been privileged to be afield since.

We covered that first field meticulously, zigzagging back and forth, checking every bit of cover for a sign of our quarry. I was determined to do everything just right and checked frequently on my tutors, especially as to how they carried their guns. My grandfather cradled his beloved L. C. Smith double, muzzle always pointed away from us; my father's Browning semi-auto was draped over his arm, barrel pointed toward the earth.

After hunting the first field without any luck, we entered an abandoned pasture. Large clumps of unmanicured grass created ideal hiding places for the elusive cottontail. The simultaneous roar of the two 12s surprised me. I had

not even seen the rabbit take off until the second shot from my grandfather's L. C. sent him tumbling.

I was chosen to remove the entrails, another new experience for me. A little chiding by my grandfather now developed. He was telling how my father had missed and he had to shoot the rabbit for him. The belly laughs were interrupted as Lindy picked up a fresh scent. My grandfather positioned me inside a small wooded plot, then quickly clambered up the rise and posted himself on an oversize boulder that gave him a full view of my position.

Suddenly, seemingly out of nowhere, the rabbit appeared before me, now only fifteen feet away, sitting. The 410 cracked, spewing leaves three feet in front of my quarry. Instead of bolting, the rabbit lazily hopped away as I frantically tried to chamber another shell.

Once again, my grandfather's laughter filled the morning air, quickly relieving the frustration that had followed the miss. "That rabbit knew he was safe," he called, still standing atop the boulder. "Remember, low man cleans all the game," he added.

Throughout the morning, my shot patterns were dispersed into thin air at pheasants my grandfather and father quickly folded following my misses. I began to wonder if I would ever connect and my illusions of being a crack shot were slowly being replaced with the realization that there is quite a difference between shooting targets and claybirds and shooting live game.

Less Than an Hour Left

But as the day began to wane, with less than an hour of legal shooting time left, Lindy began her familiar song. She had picked up a fresh scent along the weedy fence line and was now in a deep patch of woodland, hot on the trail. I posted myself in a likely looking spot. The tall grass began to sway before me and I strained to make out the brown form. My 410 ready, I waited to be sure. The hopping quarry came into full view. The shot rang out and the rabbit disappeared. Fearing yet another miss, I quickly reached the spot I had last seen the rabbit. Sure enough, there he

lay! At last, I was a successful hunter.

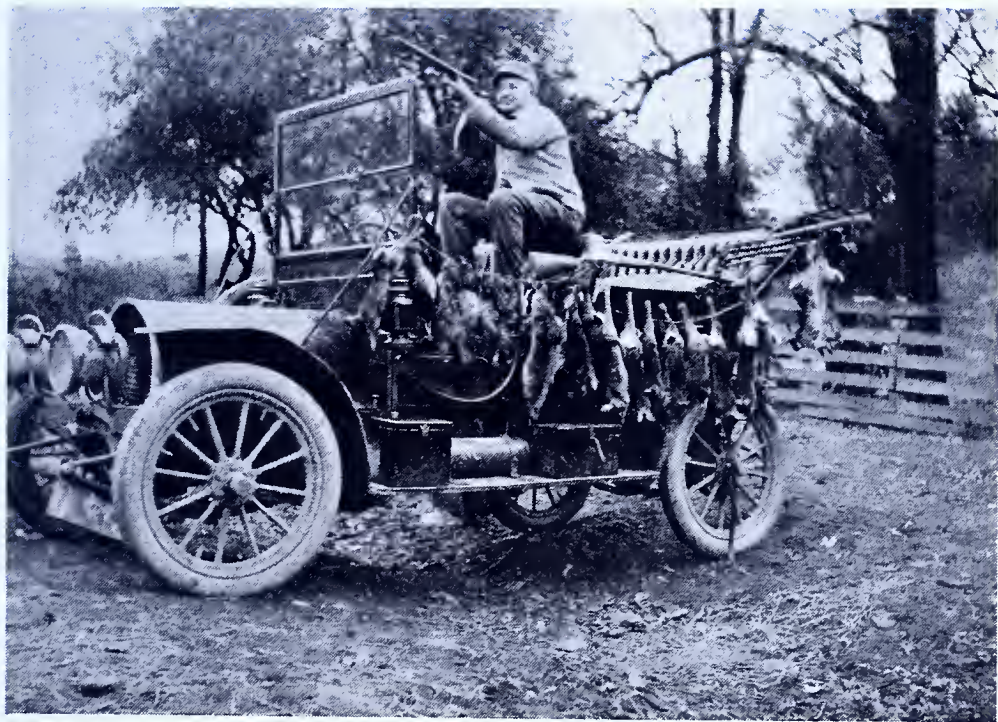
As I worked at removing the entrails, I detected the pride on the faces of my father and grandfather. Between the two, they had logged over seventy years of hunting those fields. Now there was a new member of the hunting fraternity, and their vote of confidence meant everything to me. We all knew that my new hunting vest and canvas pants would soon lose their fresh appearance and show the wear, as theirs did, of many memorable days afield.

Over the stretch of years since that day, things have inevitably changed. Lindy, that fabulous beagle, has passed away; my grandfather no longer hunts,

for cataracts have distorted his vision; my father and I live over two hundred miles apart and haven't hunted together in years; my brother, now fourteen, carries that sweet little 410, and the land we had hunted is now posted.

But memories serve us well and I will never forget that golden day afield where it all began for me. Now it is my turn to perform this pleasant task. My son is quickly approaching hunting age. I will now do my part to prepare him for his first impression. By doing so, I will do my share to introduce yet another safe, conscientious hunter to the joys of our great outdoors.

Days of Yore



FRED ROHRKASTE, of Brentwood, and an unknown friend who took this picture had a busy day at Schaffer's farm near Kittanning, back in 1911, as shown by the grouse and rabbits hanging from the car—a Franklin. Photo from T. E. Williams, of Pittsburgh.



Young Amish trapper and his father come to sell and watch the bidding.



Some folks get all wrapped up in their frontier-style finery.



Crowds were thick everywhere; displays of equipment for sale draw old-timers and youngsters alike.

The old-time trapper a dying breed? You visit Marienville for—

THE FUR SALE

THE ANNUAL FUR SALE at Marienville in Forest County attracted thousands on March 12, 1971. The crowd seemed eager to rid themselves of cabin fever after winter's big snows.

The small community was so swamped with buyers, sellers and onlookers that the "beaver sale" had to be moved three miles south to the Forest County Sportsmen's Club grounds. Route 66 was jammed with parked vehicles on both sides of the road for over a mile. Many trappers had to carry their loads for a mile to make sales. Men and women, young fry and young grizzled old-timers and farmers from everywhere came to see what their furs, garnered from swamps, ponds, streams and woodlots back at their homesteads, might bring. Beginning trappers avidly sought out the trapper's scents, spreaders and other tools displayed by veteran trapper salesmen.

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Trappers and dealers dicker in informal tailgate sessions that evoke images of rustic cabin doorsteps, woodstove smoke, maybe a swig or two from a brown jug to seal the deal.



A little judicious debate precedes selection of just the right spot to try for a sale.



I history of trapping is accentuated by fur caps, buckskin shirts, of many modern Dan'l Boones.



FIELD NOTES



Gotta Be Kidding

CRAWFORD COUNTY—While arresting a nonresident for hunting without a nonresident hunting license, I was asked if it made any difference if the man being arrested hadn't hunted a full day. I guess he felt the penalty should be pro-rated.—DGP Willis A. Sneath, Saegertown.



Rain, Snow, Sleet nor Hogs

RLSC—On the opening day of the general small game season, all game protectors are required to call in a report to the Division Office regarding such things as the weather, number of hunters, estimated kill, hunter behavior and accidents. With all the activity and demands on the game protector that first day, it is not always easy to find the time or a phone to make that report. For DGP Becker in Adams County, two hunting accidents that day made it especially difficult to get to a phone. I will never forget seeing him standing in the middle of a large hog pen, calling in his report at the last moment to the secretary in the Division Office. In a pinch, any phone will do.—Trainee L. D. Haynes.

Still Need Help

LUZERNE COUNTY—Recently, Waterways Patrolman Steiner and I stopped for lunch at a restaurant in Nescopeck and immediately, as usual, the conversations changed to hunting and fishing. One man commented that instead of arresting kids, we should be teaching them gun handling, sportsmanship and fishing techniques. I stated we do and reminded him that we firmly instruct youngsters that when they carry a firearm they are just as responsible as a person who has hunted 30 years and that, although we do our best at the safety courses, we cannot replace parental guidance!—DGP Bob Nolf, Conyngham.

Ain't It True!

ALLEGHENY COUNTY—Things you see while on patrol the opening day of small game: three cockbirds, one grouse, two rabbits. Things you see on the second day of the season when you decide to hunt for an hour: empty shotgun shells, tail feathers, litter and one lost beagle!—DGP Sam Lockerman, Pittsburgh.

They're "Out There"

MONTGOMERY COUNTY—It happens all the time. They move from the city and become terrified at the sight of even the most remote hunter. Like the lady who called before daybreak to complain of hunters being "out there." When I asked if they were within 150 yards of her home, she immediately replied, "Yes, they're in their car, smoking cigarettes." Now, was she against hunting or smoking? Probably both, not to mention *your gun*.—DGP William Wasserman, Collegeville.

It's Working

LANCASTER COUNTY—The SPORT Program is working. During small game season, I received information from concerned citizens that led to the arrest and prosecution of five men who were poaching deer and one who killed a hawk. Not one of these citizens had to appear in court. Keep up the good work, and thanks a million.—DGP John A. Shutter, Jr., Lancaster.

Get Along, Little Doggies

RLSC—While on night patrol with Barry Warner in Bedford County, we pulled in behind a farmer's barn and saw that somehow his cows had all got out. We commenced to round them up and a half hour later we had them all back in the pen. While I knew the duties of a game protector were varied, I didn't know they included being a cowboy at 2 o'clock in the morning!—Trainee Mark A. Crowder.



Takes Care Of That

CENTRE COUNTY—While keeping watch over an illegally killed doe, hoping the guilty person would come back to pick it up, I ran into some strange interference. A rather large bear—about 350 lbs.—came along and dragged the deer down the hill and into the brush. So much for the stakeout.—DGP Lowell Snyder, Milesburg.

Tsk, Tsk!

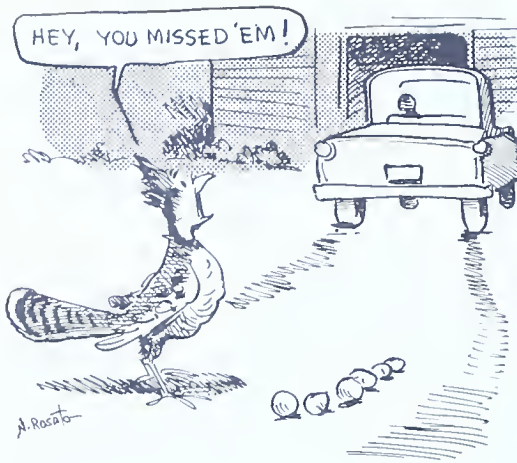
POTTER COUNTY—At the end of a hard day patrolling, I can now come in and relax and listen to people who have tried to converse with my new Code-a-phone machine. Such language!!—DGP Ron Clouser, Galeton.

They're Everywhere

BLAIR COUNTY—During deer season, I was reading the advertising section of a local newspaper. One 3x3½ block read: "Safety Advice—one positive way not to get killed while hunting—DON'T HUNT." Along this same line of reasoning, one positive way not to get killed while driving is—DON'T DRIVE. To avoid being poisoned while eating—DON'T EAT. After reading the irrational suggestion, one surmises that this anti-hunter is not really concerned with hunters' safety. Also, the first day of buck season a local radio station talk show put sportsmen and hunters down. Naturally the response was anti-hunting because the majority of hunters were in the woods. Good planning, if you ask me! I'm relating these incidents to those, particularly in this area, who believe the "antis" exist only in urban areas.—DGP Don Martin, Hollidaysburg.

Busy Isn't the Word

RLSC—I have heard many times in the past about the hectic atmosphere that is present in the average game protector's home on the first day of deer season. While assigned to DGP Larry Harshaw during the 1977 opening day of antlered season, I found out just how busy it can get. The peak of confusion, however, came on the evening of the second day when I had the telephone in one hand, the radio mike in the other, two gentlemen waiting for a permit to kill a second buck, and an American loon that had been rescued by Deputies Bob Whetstine and Ed Dysart running loose in the kitchen.—Trainee Skip Littwin.



Blue-Winged Genius

I have often seen gulls cracking clams by dropping them onto rocks or a highway, and have regarded that as very clever. The other day another highly intelligent maneuver was observed in my front yard. A blue jay was carrying hickory nuts to my driveway and lining them up in the center of the car tracks. When he had a half dozen or so arranged, he perched in a nearby oak to await the arrival of our Fury III nut-cracker.—LMO William J. Lockett, Perkasio.

No Stars in His Eyes

RLSC—While preparing to leave for a television program about hunting in Pennsylvania, DGP Chet Cinamella asked his son if he was going to watch his dad on television. Michael thought for awhile and finally told his father that he wasn't going to watch because there was nothing good on television on Sunday morning. I guess there is nothing like a child's honest expressions to cure a case of Hollywood aspirations.—Trainee Dennis Dusza.

Almost

WESTMORELAND COUNTY—Recently I spoke with a lady who was telling me about the large rabbit tracks she had seen in the snow. She said, "It must have been a horseshoe rabbit."—DGP Timothy C. Flanigan, Mt. Pleasant.

Big Game

FRANKLIN COUNTY—On night patrol recently, Deputies Ron Kline and Melvin Jones discovered a new hazard to their work. After they parked their car and got out for a better look around, Deputy Kline heard a metallic snap followed by a lot of shuffling. Going around to the other side of the car he found Deputy Jones' boot stuck tight in a No. 2 fox trap. Being dedicated deputies, they first freed Melvin from the trap and checked to be sure the trap was properly tagged, then went somewhere else to work before the trapper came by to check his set.—DGP Frank Clark, Chambersburg.

Four-Wheeled Killer

DELAWARE COUNTY—Many deer, bear, rabbits and pheasants are killed on our highways. Now such untimely death includes the Canada goose. During November, two geese flying across a highway into or out of local ponds were struck by automobiles. It appears that no wildlife, whether it walks, flies or crawls, is safe from the automobile.—DGP Richard C. Feaster, Aston.

How Needy?

ARMSTRONG COUNTY—I wish to thank all of the real sportsmen who have called me with good solid information in the past few months. Thanks to these concerned citizens, the world of the slob may be getting smaller every day. Some of my best cases recently have been made from the info I've received through these people. Still, too many people claim they will not turn in someone who poaches because they feel the poacher may need the meat to feed his family. If this is true, then tell me why so many of the well-known violators are spending so much of their time and money at local bars, instead of directing these assets toward improving the family's standard of living!—DGP Al Scott, Rural Valley.

Illiterate?

VENANGO COUNTY—The old adage, "You can lead a horse to water, but you can't make him float on his back" (at least, that's the way I heard it), has sure rung true this year, as shown by the negligence of some individuals in following the rules outlined in the Hunting & Trapping Digest provided with each license. I wish we had a surefire way of getting every hunter to "digest" that digest.—DGP Leo C. Yahner, Franklin.

Different, Anyway

FULTON COUNTY—Running from phone to door bell, supplying information and taking messages—the first day of buck season was rather typical for my wife Doris. The one call that seemed to do the most for her went like this: "Hello." "Hi, Mona." "Sorry, you must have the wrong number." "I most certainly didn't dial the wrong number. Either them darned wires is tangled up again or you answered when you shouldn't have." BANG!—DGP Carl Jarrett, McConnellsburg.

Really Think So?

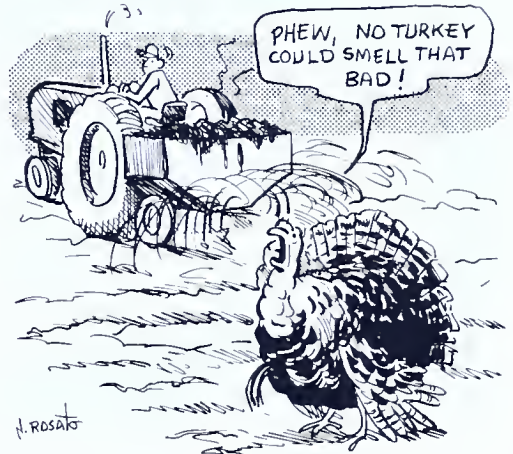
BEDFORD COUNTY—We apparently have some of the most sentimental hunters in the world. After spending the first day of the 1977 buck season on their favorite stands, some of these rugged outdoorsmen must have felt remorse for leaving their wives home while they were out having fun, because 15 of them went to the same issuing agent that afternoon and bought their wives a hunting license for the remainder of the deer season.—DGP Tom Barney, Everett.

Few But Fine

LAWRENCE COUNTY—Contrary to rumors, Lawrence County has a fine deer population and those hunters who successfully harvested deer this season can tell you that we definitely make up in quality what we do not have in quantity.—DGP Gene W. Beaumont, New Castle.

Bottle Bill Supporter

LYCOMING COUNTY—The volume of litter that one encounters even in our Big Woods country is disturbing, to say the least. The major proportion of this litter consists of non-biodegradable beverage containers—a permanent reminder of our misuse of the land. Isn't it high time that we outlawed non-returnable cans and bottles? This action would clean up our woods, save precious energy, reduce solid waste tremendously and save valuable metals. But most of all, it's just good common sense! Other states have acted with fine results; I hope we soon give it a try in Penn's Woods.—DGP Bob Fala, Linden.

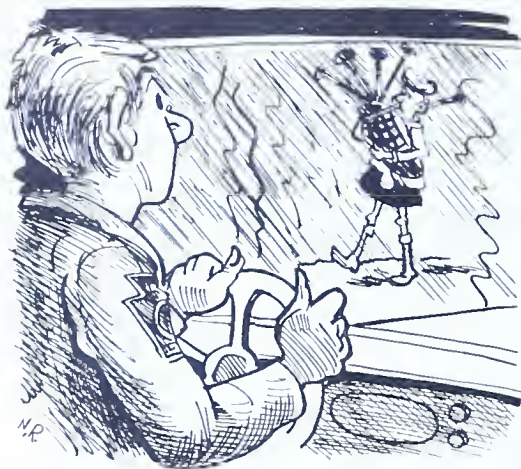


Really Spreads It

BRADFORD COUNTY—Local farmer, Fred VonWolffradt, recently purchased a used manure spreader. The equipment dealer told him when he bought it that the farmer who traded it in did so reluctantly as it was his turkey caller. Fred figured this was the biggest windy he had heard in some time. He took the spreader home and used it and noticed it did make a clucking sound. Suddenly a big tom wild turkey flew out of the woods and landed nearby. It started to strut and preen itself as it looked for the other turkeys it could hear. Fred is now a true believer in his "turkey call".—DGP A. D. Rockwell, Sayre.

Birds of a Feather

CLINTON COUNTY — Last month I had the opportunity to see my district from the air. I was invited to ride in a new helicopter capable of doing 120 mph. I was apprehensive but couldn't pass up a chance for an "air patrol." There were windows above me, around me and under my feet. As we began our vertical liftoff, I grabbed the bottom of my seat and queasily watched the ground disappear. When the pilot looked at me quizzically, I confessed that this was my first time in the air. "Oh, really?" he said. "Me, too. I just got my license today!"—DGP John Wasserman, Renovo.



Pennsylvania Pied Piper?

MCKEAN COUNTY—While on jacklight patrol last fall, Trainee Gary Smith and I received a radio call from a deputy. He was sitting on an old railroad fill when he heard a strange wailing sound. He walked up the fill to see if he could determine where it was coming from. Finding nothing there, he started down the road in his auto. Suddenly his lights revealed something strange moving. There came a man playing bagpipes. It was 10:45 p.m. and raining hard, and the man went right by the deputy as if he were not even there, never missing a beat. The nearest house was approximately one-half mile away.—DGP Jim Rankin, Port Allegany.

Small Reward

BUTLER COUNTY—One of the programs in which deputy game protectors are involved is picking up highway-killed deer. This takes many hours of their time, not to mention the gasoline used, which they pay for out of their own pockets. Recently, however, Deputy Ron Winters received a small reward from one such deer. While helping to dress it out for a needy family, he found a penny inside the deer's stomach.—DGP Larry Heade, Butler.

Really Hungry

MCKEAN COUNTY — The other evening Don Gallup, who owns an engine repair shop in Smethport, called about an engine he wanted me to see. I couldn't understand why he wanted me to see an engine, so I went down to his shop. He showed me the head off an 8 h.p. single cylinder aluminum engine that looked as if someone had taken a burning torch to it. I asked what it had to do with the Game Commission, and he told me to take a closer look at the marks. I did and saw that they had been made by teeth, and the offender turned out to be a porcupine. Don said that in his many years of working in the oil fields, he had never seen anything like it. I told him I certainly hoped the porcupine didn't tell his friends, or we might be in for some real trouble.—DGP Denver McDowell, Smethport.

In the Job Description?

BRADFORD COUNTY—Not long ago my wife talked to a phone caller who wanted me to do something about high taxes. My wife explained that I was a game protector and worked for the Game Commission. The caller said he knew that but still thought the Game Commission could do something about the new reassessments. Later that day I was walking downtown when a man ran across the street, yelling to me that he had to get change before he could put any money in the parking meter.—DGP William A. Bower, Troy.

It's How You Play

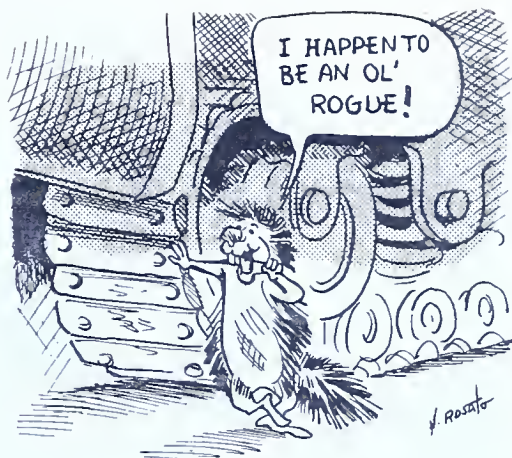
INDIANA COUNTY—Thousands of young hunters will share the hunting experience for the first time this year with their parents. I would like to urge all parents to try to make the right impression on those young minds. Hunting should not be considered a sport where you win if you get a piece of game and lose if you don't. It's how you play the game that counts. Each hunting experience can be enjoyed as a rewarding trip into the world of nature.—DGP James Deniker, Homer City.

Two Different Kinds

ERIE COUNTY—Recently a large industrial concern posted an extensive tract of land against hunting. This was a favorite area of many hunters and they were very upset. It came as no surprise to me when I passed through the area one day and saw that most of the signs were torn down, thrown into the bushes and hung in trees. Then on down the road I saw a person who, when I approached him, told me, "Mr. Meyer, someone tore all of these signs down and I am putting up what I can."—DGP Russ Meyer, Fairview.

What Can You Do?

RLSC — While on patrol, DGP Flanigan and I were flagged down by a man on the side of the road. As we pulled over, he ran up to our vehicle, yelling that he had just been sprinkled with shot from hunters in a nearby field. He proceeded to give us a severe dressing down, remarking that it was our job to keep the hunters in line. He told us he had their hunting license numbers and wanted to know what we were going to do about the situation. We told him to give us the information and we would investigate immediately. At this point his attitude completely changed; he said he didn't want to get anybody in trouble and refused to give us the license numbers. We just looked at each other in frustration, then drove on to our next call.—Trainee Stephen A. Kleiner.



Well . . . Sorta Round and Prickly

TIOGA COUNTY—The word went out from Land Manager Dave Brown to apprehend a big porcupine known to be eating the hydraulic lines on a bulldozer and other equipment parked on the Game Lands in Steven House Hollow. Now, I've heard about rogue elephants, tigers and bears, but what does a rogue porcupine look like?—DGP Jack Weaver, Covington.

Never Thought Of That

GREENE COUNTY — Recently I pulled into a gas station with bits and pieces of three roadkilled deer, all removed from I-79 south of Waynesburg. An old-timer at the station, after looking over the deer, went on to state how lucky I was. "Why?" I asked, and his reply was, "Just think if you had to pick up all the roadkilled possums in the county!"—DGP R. W. Oliver, Greensboro.

Simple Remedy

ADAMS COUNTY—I recently talked with Terry "Swamper" Swartz of Carlisle, a collector of antique traps and metal name tags from traps. One of his cherished tags bears a message on the reverse, directed to a would-be trap thief. It says, "Please Do Not Steal This Trap." It must have worked because the the owner still had it to give to Swamper.—DGP Gary Becker, Aspers.

Tobyhanna Judged Tops



COOKOUT IN BARNEY'S LAKE AREA is enjoyed by representatives of the groups which cooperated in Tobyhanna program.

AN UNSWERVING spirit of cooperation shown by the Pennsylvania Game Commission, Pennsylvania Federation of Sportsmen's Clubs and other groups was instrumental in Tobyhanna Army Depot's being judged tops in the Army and runnerup in the Department of Defense Natural Resources Conservation program, according to depot commander Col. Raymond L. Toole. Toole praised the efforts and cooperation of DGP Dave Overcash and PFSC Vice President Jim Price, among other agency representatives who were present when the Department of Defense selection committee visited the base. Tobyhanna is an industrial facility employing about 3,500 persons.

The personal dedication of buildings

and grounds chief William Weber Sr., who is active in several area sportsmen's clubs and conservation groups, has enhanced Tobyhanna's environmental program. Just a few of the base's conservation accomplishments include: planting of 40 acres in pines to control wind and prevent soil erosion; planting of seedlings on a sanitary landfill; maintenance of wildlife food plots for severe winters; planned construction of wood duck nesting boxes in wetlands; cooperation in a river otter study; frequent water and air quality studies. The program's goal, according to Col. Toole, is that "the entire Tobyhanna Army Depot community be educated in and concerned with the quest for the best possible environment."

Buries Its Foot Instead

It is untrue that the ostrich hides its head in the sand when confronted by danger. It kicks viciously when cornered or wounded.

Update On API

For years the Animal Protection Institute, of Sacramento, Calif., has run ads soliciting contributions to help eliminate "grisly death through steel traps." In our February 1974 issue we ran a short item about this, calling attention to the fact that the Sacramento Better Business Bureau reported that in a fund-raising drive for the API, \$167,000 was raised but only \$15,000 went to the stated purposes of the organization. We received a letter from that group, denouncing us for publishing the item and demanding we run a retraction. We declined to do that. The following item, which appeared in the December 19, 1977 issue of *Fur Age Weekly*, a New York City newspaper, provides current information on this organization.

Anti-Fur Group Loses Federal Tax Exemption

Sacramento, Calif.—Under investigation by the office of the California Attorney General for some time, The Animal Protection Institute has lost its Federal tax exemption.

The Internal Revenue Service made the revocation retroactive to 1973, planning to recover taxes on about \$4,500,000 received by the organization through personal contributions received from advertising campaigns.

The IRS said that it will recover from the organization only and will not seek returns of tax deductions from contributors.

API claims to be the largest humane organization in number of members.

A California suit, still pending, charges that contributions were diverted fraudulently to personal use of officials of the API.

Letter . . .

Editor,

I am writing this letter in the wake of an unfortunate incident that took place yesterday, October 29, 1977, the first day of small game season. The public has been deluged lately about the "slob hunter" and how "his kind" is ruining the outdoors. After yesterday, it will take an act of Congress for me to knock hunting and hunters.

A close friend and I were hunting on Game Lands 187 in Luzerne County in an area called the Pear farm. At approximately 9:30 a.m., a young hunter came running down a path and asked if anyone had a CB. It seems a hunter had suffered a heart attack. Being unable to help him, the young hunter left to get assistance.

My friend Bob told me he knew CPR (cardiac pulmonary resuscitation) and could possibly help. He had learned it in Vietnam as a soldier. We rushed to where the man was and Bob pitched right in. To my surprise, most of the hunters in the area were watching and some, believe it or not, said a prayer. At about 11 a.m. the ambulance arrived and took the man to the hospital. We learned that night that it was too late.

After the man was taken away in the ambulance, Bob sat on the ground, visibly shaken by what had happened. By this time every hunter in that area was standing nearby, very concerned. As we left to get coffee, we noticed everyone else had ceased hunting and headed for their cars.

This was the first day Bob had touched a gun since he was released from the service. On the way up, he had expressed concern about the caliber of hunters we would encounter. I assured him they were good and responsible. As we walked down to the car, he turned to me and said, "Hunters can't be as some people say, because this group is one who cares and is not afraid to get involved."

I felt you should know that you now have the support of a person who has never hunted and never knew what it was to hunt.

Please tell your people who buy GAME NEWS that they and the rest of the hunting population could be counted on when they were needed the most.

Thank you.

Charles Bowman
Hazleton, Pa.



Trapper-scientist cooperation brings to light an unusual raccoon that proves——

Teeth Aren't Everything!

By Paul W. Parmalee and Arthur E. Bogan

University of Tennessee



SKULL AND JAWBONE of toothless female raccoon trapped in Bedford County. Note the roughened areas which indicate the original placement of teeth.

ZOOARCHAEOLOGISTS ARE a fairly small group of scientists because their work must involve a detailed knowledge of both natural history and archaeology. They must develop an understanding of Indian cultures and, in turn, be familiar with the species of animals which inhabit or did inhabit the area once occupied by a particular group of aborigines. During the excavation of an Indian village or camp site, archaeologists often recover considerable quantities of mussel shells and animal bones—the remains of meals eaten several hundred to even several thousand years ago.

It is the responsibility of the zooarchaeologist to identify this “prehistoric garbage.” Such animal refuse can often provide a great deal of information such as which mammals, birds, turtles and fish were most important in the In-

dian's diet. These remains may also reflect the former abundance of various species in the area, and the season or seasons of the year a site was occupied by the presence of bones of migrating waterfowl, newborn or juvenile animals, summer bird residents, and the like. In order to make accurate identifications of these remains, however, the zooarchaeologist must establish a collection of identified skeletons with which to compare the bones found at archaeological sites.

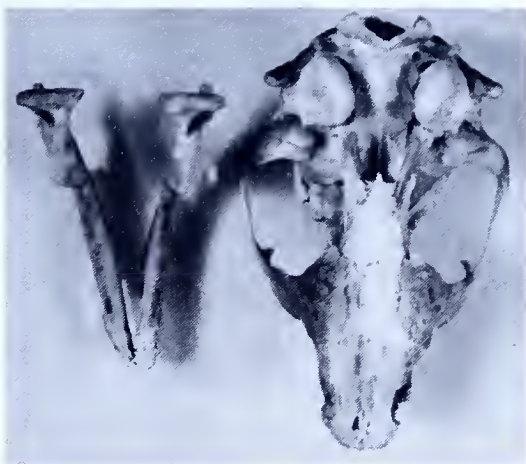
Source of Carcasses

Trappers and fur buyers often serve as an excellent source of carcasses useful to the zooarchaeologist for this purpose. During the winter trapping season of 1975–1976 numerous carcasses of native furbearers such as raccoon, red and gray fox, muskrat, mink and weasel were obtained from trappers and fur buyers in several states; these specimens were processed and the skeletons added to the research osteological collection in the Zooarchaeology Section, Department of Anthropology, University of Tennessee, Knoxville. One of these, a raccoon, was especially interesting because of its complete lack of teeth. This raccoon, an adult female, was trapped November 26, 1975, by William T. Reyan, New Enterprise, Pennsylvania. The animal was caught along the Juniata River near Everett, Bedford County. During removal of the hide, Reyan noted that the animal appeared to be lacking teeth and set the carcass aside for Jean Feathers, a neighbor and graduate student at the University of Tennessee, for whom he was saving carcasses of other species. The skinned and eviscerated carcass

weighed about 6½ pounds. This animal, like other raccoons trapped in the same general locale, was in good flesh and possessed heavy deposits of fat, especially across the shoulders, rump and back.

But the raccoon had lost all teeth in both upper and lower jaws. Except for the upper right canine, all of the tooth sockets had been completely reabsorbed. A general outline of the original position of the upper molars is still apparent, although the former tooth rows in the lower jaws are evident only as a roughened ridge. The tip of the right jaw is noticeably scalloped and the bone in this area is very porous.

Unusual tooth arrangements in the raccoon have been reported in the scientific literature, but most of these have consisted of extra teeth or the absence of a particular tooth. Why did this particular raccoon lose all her teeth? Although the animal was a mature adult, judging by the complete fusion of the ends of the limb bones to their shafts, loss of all teeth was almost certainly not the result of old age. There was no evidence of bone disease



in any of the other elements. Possibly some form of bacterial infection, localized in the mouth/gum area, caused this raccoon's teeth to loosen and fall out. How long the animal was toothless before being caught is unknown, but the complete reabsorption of the root sockets suggests many months or possibly years. The remarkable aspect about this raccoon is that she was not only able to survive without teeth but also to eat a sufficient quantity of food to maintain a healthy condition.

But How Do You Harness It?

The electric eel (found in South American rivers) can generate electric power strong enough to light more than a dozen household bulbs.

CONSERVATION CREED

I will pledge myself, as a responsible human, to assume my share of man's stewardship of the natural resources of the earth. I will use my share with gratitude but without greed or waste. I will respect the rights of others and abide by the law. I will support the sound management of the resources we have despoiled and the preservation of significant resources for posterity. I will never forget that life and beauty, wealth and progress depend on how wisely man uses these gifts—the soil, the water, the air, the minerals, the plant life and the wildlife. This is my pledge.



DGP BOB YEAKEL AND SCHOOL INSTRUCTORS view the Hunter Education exhibit set up at Southern Middle School with Game Commission materials.

Hunting Safely Reaps Hunting Rewards

By John Behel

Hunter Education Coordinator

“HUNTING SAFELY reaps hunting rewards. That’s what we believe here at Southern Middle School of southern York County.”

Gerald Miller, principal of Southern Middle, was talking about some of the benefits of providing hunter education with that school’s program. “Since 1969 when hunter education was made a part of our regular curriculum, we have not been proven wrong. There has never been a controversy about guns or hunting. In fact, hunter education and hunting are used to establish interest for many students who may not have any recreational activity.

“I’m a firm believer in family life, and have recommended hunting education as an outdoor recreation for better communications among student, school and family. That statement, ‘Take a boy

or girl hunting and you won’t have to hunt for them,’ is true. Hunter education develops responsibility and respect not only for hunting and wildlife, but also for the outdoors. Students tell us that parents who accompany them while hunting or fishing also develop respect for the outdoors. And even though many students may not hunt, it is a sure bet that all have an interest in outdoor recreation.”

Interest in wildlife and the outdoors is further promoted by life science teacher Lowell Wakefield. A nature trail has been provided on the school area. Field trips on the Appalachian Trail not only excite students’ enthusiasm but also give them an opportunity to see and experience what they’ve read about in the classroom.

Librarian Barbra Eberly and aide



Middle School at the beginning of each school year. Full cooperation and assistance are afforded by Mr. Miller and other teachers. It is quickly established that hunter education is a learning experience in developing attitudes of responsibility and respect for land, landowners and wildlife.

Hunter education also becomes a part of the reading program. Unfamiliar words or concepts are explained. Hunting education classes open the door to the school's sportsmen's club and further training with films and field training for hunting, marksmanship and other subjects. These are presented by industrial arts teacher Michael Acierno and social studies teacher Earl Caswell. The sportsmen's club is a full-term activity. What makes it successful? DGP Yeakel and others will tell you that teacher interest complements student interest.

As the exhibit theme portrays, many students have realized the rewards of hunting safely. This has been accomplished with the progressive attitude and cooperation of Gerald Miller and other teachers who have placed high value on student interest at York County's Southern Middle School.

Virginia Toy developed the school's hunter education exhibit. The eye-catching fluorescent orange exhibit highlights student-built segments calling attention to safe gun handling and respect for the landowner. Chatting with Barbra Eberly, you soon realize that student interest in hunting and outdoor education is given high priority. Many outdoor magazines and books are available. "We keep updating and adding to our outdoor publications, which are always in use. Trapping books, which are hard to find, are in short supply. The Pennsylvania Game Commission's wildlife publications, including the trapping booklet, are most welcome."

District Game Protector Robert Yeakel presents hunter education classes to all sixth graders of Southern

Available Publications

The following publications are available from the Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120. Prices quoted include taxes, handling and postage.

GONE FOR THE DAY, by Ned Smith. All of the outstanding columns and artwork which appeared under this title in **GAME NEWS** during a four-year period. Delightful reading for everyone. 216 pp., \$2.50.

PENNSYLVANIA BIRDLIFE by Leo Luttringer. All about Pennsylvania's birds—what makes them tick, where to find them, how to identify them, what to feed them, how to conserve them. Color charts. 128 pp., \$2.00.

PENNSYLVANIA TRAPPING AND PREDATOR CONTROL METHODS, by Paul Failor, gives detailed information on all phases of these activities—sets, baits, etc. 96 pp., \$1.

GAME NEWS BINDERS, black vinyl with gold lettering. Will hold 12 issues, keep them neat and clean. Excellent as gifts. \$2.50.

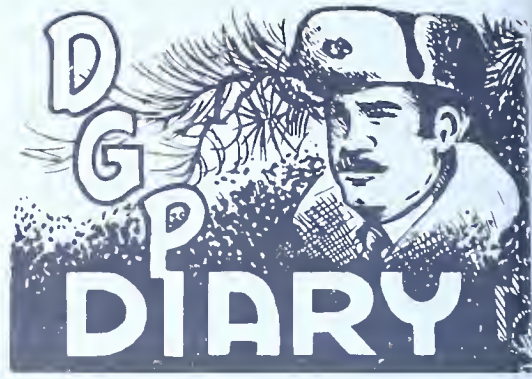
WE DO A LOT of general patrolling during hunting season when large numbers of hunters are in the woods, but enforcing The Game Law involves much more than driving around until we see someone violating the law. Mostly, our work involves investigations and detective work like running down leads, interviewing people, and gathering evidence about a violation we did not personally witness. Also, a lot of our law enforcement program is preventive. Just the fact that we are out there keeps many hunters from becoming violators.

Violators can be divided into three categories. One is the person who unintentionally or through negligence breaks a law. Another is the opportunist who just can't resist a flock of turkeys or nice buck out of season. Finally, there is the deliberate violator, the one who leaves home planning to break the law. This third type of violator deserves special attention, and hours devoted especially to him are also a part of the game protector's job.

March 3—Deputy Dave Darby called to report that a man we suspected had been taking over his limit of beavers had caught his third one. Dave marked two of these and we talked to a witness who said the suspect had removed another from a trap on a different pond. Since I was busy, Land Manager Dave Brown investigated and said our suspect had reset the trap. This in itself was a violation, but we felt we should wait until he actually caught another beaver, which would put him one over the limit, so we'd have a better case. Dave Brown assisted with the stakeout we set up.

March 5—Our suspect had his fourth beaver in a trap. It was still alive, so we needed to see the suspect actually remove it. Unfortunately, it didn't work out that way. Dave got so cold he had to leave after he managed to mark the beaver. By the time I hiked in, the beaver was gone and the trap was reset. Now we would have to wait until he caught another one because we had no way of proving who took the beaver.

March 6—Since it was Sunday, and I knew our suspect was off work, I went in before daybreak to stake out his fifth beaver. It was well below freezing and even with extra clothes I was chilled to the bone from lying on the ground. Just before noon a trapper I knew quite well came into the beaver pond. He is also an area fur dealer. At first I was shocked, then angry



By Jack Weaver

**District Game Protector
Tloga County**

at what he did. Right in front of my eyes, he stole my suspect's beaver. He hid the beaver behind some brush while he set some of his own traps in the pond. I decided to grab him on his way out with the stolen beaver but, before I could get there, he managed to sneak out by another trail. Right after he left, my original suspect appeared. I watched while he reset both his and his son's traps. This was another violation, for his son wasn't present as required by law. Still, that was not what I was after and only served to indicate that both of them were involved.

March 8—Once again I was on a stakeout watching a trap containing our suspect's "second" fifth beaver. This time I managed to watch both him and his son remove the beaver. After they left, I drove to the district justice's office to get search warrants. We were going to need them in order to get the evidence from their homes. The next morning Deputy Darby informed me that they still had traps set for more beavers.

March 9—After we searched the suspect's home and obtained the necessary evidence, I drove to the Division Office to pick up a load of snowshoe hares. These animals were wild-trapped in Nova Scotia and purchased by the Game Commission. I had stocked some in 1972 and they seem to have done well. Snowshoes require a special type of habitat consisting of old clearcuts and hemlock swamps. I put these rabbits in excellent cover in the same general area as my 1972 release.

March 11—Seldom do I make it through a beaver season without falling through the ice, but today was preposterous! I went through to my waist in the first pond I was

on this morning. With the spring thaw in full swing, the ice is becoming dangerous. Then this evening I fell through over my head. The ice was so rotten I had a hard time getting out.

March 19—Gathering up some of my hunter education instructors, I headed for a conference in Potter County. The Game Commission has been holding special training conferences for instructors across the state. Hunter training is one of the most important jobs the Game Commission does, so it is imperative that our volunteer instructors are familiar with all aspects of the program. During the meeting I presented a senior wildlife conservation award to Robert Brown from Millerton. Bob has been an active hunter education instructor for over 15 years.

March 20—We held our annual beaver tagging and fur sale today at the Arnot Fish and Game Club. There was a good turnout. So far I've tagged more beavers than usual for my district.

March 28—Dave Darby and I attended a special meeting this evening at the Division Office. The two men we arrested for catching too many beavers earlier this month were complaining of harassment. They also complained that Deputy Darby was trapping illegally. We had to meet with them, Supervisor Laird and Law Enforcement Assistant Jack Lavery, who are investigating these charges. All active law enforcement officers, whether they are policemen or game protectors, occasionally go through these situations. We were able to prove that the deputy didn't violate the

law, and the defendants' previous arrest records substantiated the extra attention we gave them.

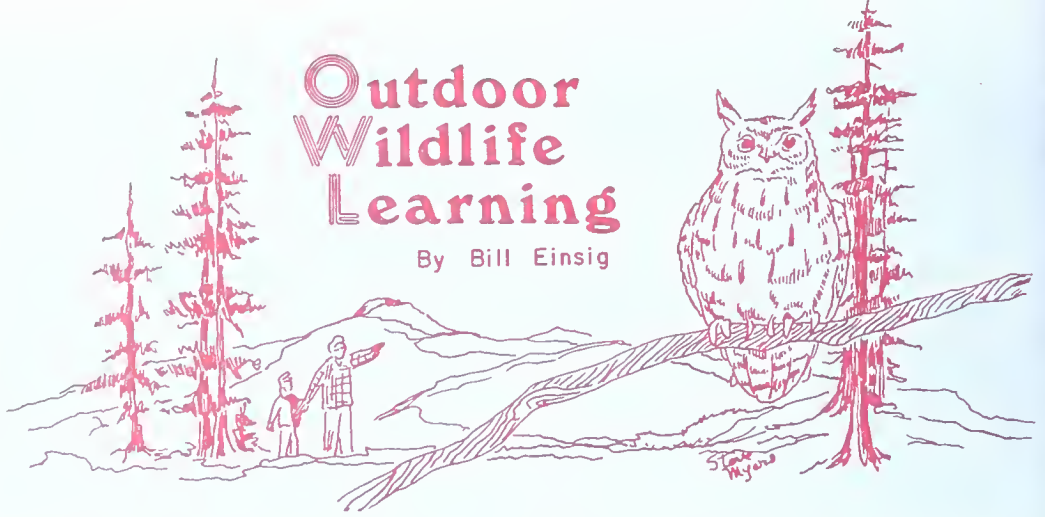
March 29—DGP Lynn Keller is one of those officers who is meticulous about keeping records. When he hears a rumor about someone catching a beaver, he marks it down. Beavers must be tagged within ten days after the season closes. When Lynn couldn't find any records of a particular beaver being tagged, he called DGP Frank Bernstein and me to see if we had tagged it. We hadn't, so we went to see the person involved and, sure enough, he had a beaver which he never bothered to get tagged.

March 30—Game protectors are often called upon by local police to help search for escaped prisoners and the like. I received a call from Sheriff Jack Wilcox to help locate some juveniles who ran away from a detention center in Blossburg. But all Blossburg Chief of Police John Davis and I managed to do was get stuck again!

March 31—Today I met with some Vo-Ag students at the Williamson High School. Several are interested in competing for the Game Commission wildlife awards. This is a good program in which the students plan and execute their own projects to benefit wildlife. They must keep records of what they do over the course of a year, and are awarded points based on the volume and quality of their project. The students learn a lot about wildlife management from participating in the program, and the Game Commission awards cash prizes on both a divisional and state level.

Conservancy Again Aids PGC

The Game Commission has acquired, through the cooperation of the Western Pennsylvania Conservancy, a privately owned parcel of 1,275 acres within SGL 53 in Fulton County. The new section will be called the Walter R. Sloan Recreation Area, in recognition of the conservation commitment of the previous owners. The Conservancy has helped the Commission and other state agencies to acquire important natural areas which, as government agencies, they could not act quickly enough to obtain, or had other problems in acquiring. The Conservancy buys land with money donated or earned by members, and then conveys it at no profit to whatever agency is best suited to maintaining it. Over 60,000 acres have been saved for Pennsylvania citizens in this way.



Travel/Study at Clarion

Each summer since 1970, Clarion State College has sponsored a biological travel-study program that's designed to give participants direct experience in areas of ecological research. Over the years, persons in this program have visited areas as different as Maryland's Eastern Shore, the Sonoran Desert, the Beartooth Plateau, the Okefenokee Swamp and Arctic tide-water.

In 1977, 23 students from colleges across Pennsylvania and elsewhere accompanied two instructors on a 29-day trek to Nova Scotia and New Brunswick. They studied the ecology of such diverse systems as alpine tundra on Mt. Washington, tidal pools and mudflats at the Bay of Fundy, and forests at Kejimikujik National Park.

During this coming summer, Dr. Ernest C. Aharrah, who has directed the program since its inception, will lead a three-week trip to the lake country of northern Minnesota. Along the way, students will visit and study the sandy eastern shore of Lake Michigan, the marshes of Rippon, Wisconsin, and spend a few days at Isle Royale. Sounds more like a nature buff's dream vacation than academic work!

Actually, the program is meant to be both. Students register for six credits—undergraduate or graduate—in Biome Studies and either Ornithology or Plant Taxonomy. During the trip, Plant Taxonomy is taught by Dr. Aharrah, while Dr. John E. Williams, an animal ecologist, handles the ornithology course. But here the similarity to "normal" college work ends. The trip is really an informal camping expedition. All camping equipment—except personal items—is supplied by the college. Food and travel expenses are included. So it boils down to a camping vacation with expert naturalists that re-

quires no equipment or transportation worries on your part and still provides you with six college credits. Fantastic!

Total cost including the credits, transportation, food, equipment and other miscellaneous items comes in at less than \$400. But you'll have to hurry to reserve a place before the April 1 deadline. Contact Dr. Ernest C. Aharrah, Biology Department, Clarion State College, Clarion, Pa. 16214, for a brochure and an application.

A Word For The Grasses—

What do corn, wheat, rye, barley, oats and crabgrass have in common? Right! They're all grasses. The grass family is probably the most important group of plants to man and many forms of wildlife. Over 7,000 species exist worldwide and many of our most important food and forage crops are found within this ubiquitous group. In addition, they are probably the most common plants most of us walk over, break down and stamp under foot. In our haste to find and capture on film the beauty of the more showy wildflowers, many of us completely overlook the intriguing world of the grasses.

Part of the reason that grasses remain obscure to most of us is the fact that they are quite difficult to identify using standard references. I remember spending hours during my college days, peering through a low-powered binocular microscope looking at florets, awns and glumes as I carefully dissected a grass flower in order to identify it. Needless to say, significant as they may be, the grasses are not the most glamorous or convenient plants to study and photograph. But they are challenging and they represent a highly specialized family that has become adapted to the most rigorous environments. They are more than worthy of our attention.

The good people at Dover Publications

have produced some help in the form of a small paperback titled *Field Guide to the Grasses, Sedges and Rushes of the United States*, by Edward Knobel. Over 370 species are described in brief non-technical terms with more than 600 line drawings. Unlike many of the popular field guides, this one contains a nifty one-page key that directs the reader to the plate containing an illustration of his unknown grass plant. There are also keys for the sedge family, the sedge genus and the rush family. Most of the terminology needed to use the keys effectively is discussed in the introduction, but a little background in plant taxonomy would be of help. Look for a copy at your favorite book store or write to Dover Publications, Inc., 180 Varick Street, NYC 10014 and, this year, look at the plants under foot.

A 3-Meter Hike

You don't have to go far to learn about nature. The following is a good activity that can be carried out with almost any age group and can be modified in countless ways to illustrate a number of important concepts.

With your group gathered around you, explain that they should play the role of a small animal that commonly lives in the area where you happen to be. If on the school lawn, each student can pretend to be an ant, or a spider, or a pillbug—whatever he chooses. Each "animal" then

crawls slowly over the ground, trying to see everything as that little critter would see it.

Have your students look for things and when something particularly interesting is found—an insect shell, a small bone, or bug of sorts—group together and discuss it. What is its color? How does its color help it to survive? Does it have legs? How many? Does it have a mouth? What kind of food might it eat? What might eat it?

Also have your students smell the soil. What kind of smell is it? Sweet? Musty? Is the soil damp? Dry? How do the plants influence the soil's dampness?

After the students have carefully observed everything along their short path you can have them do the same thing in a different habitat—in a woods, a field, or a sandy or rocky place. How do the physical conditions vary? What differences are there in the kinds of organisms found in each place? Depending upon age level, you might have your students write a scenario about something they found, or draw a picture to illustrate an interesting thing or event, or they can use appropriate equipment to take tests to compare soil moisture, pH or radiant energy.

The basic idea is to get your students to zero-in on the bustling world below their feet and to develop the powers of observation. Beyond that you can stress principles of adaptation, protective coloration, predator-prey relationships, the role of soil in ecosystems, and on, and on.

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Thornapples



Chuck Fergus

WE HAD COME back in a hurry, driving straight through from New Mexico in thirty-six hours.

What did I have to show for the trip? Some new nicks on the packframe, a few lessons learned firsthand, a \$137 elk license to thumbtack on the wall next to the faded pink and yellow and blue Pennsylvania tags. The trip had been a subtle mix of good and bad. The camaraderie was good, and the rugged land, and a feeling that I'd hunted as hard as I could. The bad was mostly limited to the fact that no one shot an elk, even though two of the group, myself included, saw bulls.

But now it was time to look ahead to Pennsylvania. The hunting to come would, I knew, reflect the elk hunt's bittersweet nature: it would contain elements of triumph, tragedy, irony, and ambivalence, its success would be tempered by failure, and enough disappointment would creep in to give its pleasure value.

I had missed the first three days of grouse and woodcock. For several years, hunting for these birds has opened two weeks ahead of the general small game season. The early period often comes smack-dab in the middle of Indian summer, with its sticky, strength-sapping heat, clouds of insects, and still-leafy trees. If you see birds, and get shooting at them, it can be a fine time to hunt; otherwise, it's miserable.

The first night back, I slept soundly. Boots, pocketknife, and hunting duck lay on a chair beside the bed, gun and shells were already in the truck. At daybreak it was raining. Hard. Have you done much hunting in the rain? Sometimes it's good and sometimes it's bad, but it's consistently, undeniably wet—especially in the low-lying stream-cut covers where we do much of our hunting. Still, it was my first day back, and I was ready to make the best of it.

The dirt road over Bald Eagle Mountain was slick. Yellow striped maple lined the road and spread through the understory. On the other side of the valley, a series of narrow watershed ascended to the long, dark line of the Allegheny Front; the trees were yellow, green, orange, and red, an overall dull orange when the clouds pressed in and rain began to pelt.

I parked near a cover we've come to call the Big Thicket. I got out, the rain beating the brim of my cap, and put on the shell vest. Slipped five dull red number 8s—their shot showing like grain beneath the translucent plastic—into loops on the right side of the vest, slick yellow 7½s on the left. Broke the gun. Slid two shells in, red right and yellow left. Shut the action. Slammed the truck door, its hollow, tinny sound carrying off after the action's click, lingering a moment, then vanishing in the rain.

First Cover

Then I cut the edge of the first cover of the year.

I zigzagged through the brush, leaving the road behind. My feet rolled over the hard, yellow-green crabapples covering the ground beneath the trees. Mushrooms rose from the soil, wet and slick and scrubbed-looking. Hawthorns and locusts tugged at my arms, holding me back momentarily and adding to a feeling of walking upstream—a feeling full of expectancy and continual discovery that often grips me when I hunt fresh cover.

An hour's work brought no flushes, but I was still breaking new ground in the cover. I hunted down to the creek. The water, green and high, moiled

beneath the overhanging bank, and downstream the current pinned brush against a fallen sycamore. If a flushed bird flew across, it would be safe.

I turned back toward the mouth of the cover. I struggled through soaking, chest-high dogwood, the shrubs leafless but still holding waxy white berries, broke out into high grass, and plowed back into dogwood. I was in the middle of a patch, gun held parallel with the red shoots, when a woodcock flushed. It came up with an electric twitter; its body, wobbling above the stems, created the instant impression of a brown rag being tugged in on the end of a fishing line.

Time compressed: I swung and pressed the trigger. The woodcock fell as the sound of my shot bloomed and died on the mountain.

The first shot, the first cover, the first day. I was carried into the season.

The woodcock lay in an attitude of flight, wings extended and backswept, tail spread, head raised slightly. As I bent to pick it up, the bird seemed to draw in on itself, and then it loosened and let go of something and was just a brown rag fallen among the blackened dogwood leaves.

I smoothed its feathers, pondered it a moment, and put it in my game pouch. Its weight was nothing. I began to hunt again in the hard rain.

Around noon, I left the cover. My boots squelched with each step and my pants felt like tubes of sodden cardboard. I went home and changed, put on dry boots, and, on the spur of the moment, called Mike Puglisi to ask if he wanted to hunt for an hour or so. He was willing.

We drove back to the Big Thicket.

I'd had it to myself all morning, and there were no cars parked there now, either. The rain had stopped, but fast-moving dark clouds still rubbed against the ridges. Mike and I moved side by side through a screen of pines and then began to hunt the intermittent hawthorn tangles. Wet leaves stuck to our guns and hands. We did not talk, but whistled now and then to attract each other's attention, and pointed in the direction we thought the hunt should go.





We worked toward a thick corner down by the creek, slipping between crabs bare save for a few apples which had fallen from their crowns and impaled themselves on spurs lower in the trees.

We were almost to the creek when the wing-sound made us turn. The twittering came from upslope. A woodcock had waited for us to pass and then, for some reason, panicked and flushed. And, instead of winging across the creek, it had flown into the heart of the cover.

Mike and I started back for the re-flush.

As we shoved through the soaking brush, the sun came out for the first time that day. Orange and dazzling, it seemed to hang on top of the plateau. In the Big Thicket, the trees fairly burned in the slanting light.

The re-flush came when we caught the timberdoodle between us. The bird came up from Mike's feet—into the sun, for him—and bent past me toward the creek. I was able to swing the gun for a fast shot, and the woodcock crumpled in a puff of feathers.

Mike came over. "Good shot," he said. I handed him the bird, and he looked at it and slipped it in the back pouch of my vest.

Our hunt ended at the far reaches of the cover. The sun was gone, clouds raced over, the day was spent. We unloaded the guns and started back. As we passed a small pine, a grouse roared

out. Its takeoff completely eclipsed that of the woodcock, the flush so close the spray from wing-slapped branches reached down to us.

It was over. A good day, save for the deaths of two woodcock which now did not really seem dead but more immortalized in my memory, a day with an ending that invited me to be back at dawn.

And I was. Over in one of those narrow, rising valleys on the other side of Bald Eagle Creek. The pale light promised a sunny day, and the trees were hung with mist. I was anxious—this should have been a sign to me—very anxious to get going.

The only way to reach the cover was to cross a run. This run is usually quick and sparkling and shallow. Now it was full and brown, with a low rushing noise. Its waters carried nothing—no branches, no leaves, nothing. I took off my boots and threw them across. Shucked my hunting pants, tied off one leg, dropped a stone in, and threw them across, too. My feet probed the shallows, and suddenly I was in above my knees. The water was cold and swift, but to the eye it appeared somehow still and suspended, while the bank on the other side seemed to lurch upstream.

I held the gun high, for balance, and inched across.

Another First Day

As I dried my feet with the trousers I looked over the land. I liked my chances. With the water up, it seemed probable that no one had hunted this cover yet. It would be another first day. But I wouldn't hunt as I had yesterday—full of joy at being back, busting cover haphazardly. This time I would be scientific. I would walk up the old fencerow separating the reverting fields from a hemlock grove, then turn and walk the pines that formed the cover's upper border. The birds would hear me, I reasoned, and later, when I knifed through their main cover, would be unwilling to fly into these sanctuaries.

So I kept to the edges and ended up on a hill overlooking the spot where I'd crossed the run. The sun was up, and

small clouds gleamed over the high plateau.

Once into the cover, I stopped every three or four steps, gun butt tucked between my right bicep and side. I was mainly on the lookout for grouse. I watched among the sumacs, barberry, and hawthorns, where the ground resembled the scene of last night's party, strewn with bright leaves like bunting and wrapping paper and ribbons.

I wasn't ready for the woodcock that fluttered out at my feet. Maybe I never am.

It was an easier shot than either of the two I'd made the day before, the bird skittering through a small clearing, but I forgot to swing the little Ithaca and ended up punching two holes in the air behind it. Keeping my eye on the spot where the woodcock went into the hawthorns, I broke the gun and ejected the empties with a *pop*. I put in two live shells and snapped the breech, somewhat harder than necessary.

I waded into the brush, letting the blackberry canes scrape my thighs so I could keep both hands on the shotgun. An alder shoot caught under the gun barrel, snapped back, and stung me across the lips; anger boiled up in my throat, using the pain as an excuse but really deriving from the missed shot. Then, in a clearing behind a fallen log, I saw a grouse. With its tail fanned. Shoulder ruffs up. Crouched and ready to flush. Instinctively I fired, even as a voice in my mind screamed *No!*

The grouse rolled, righted itself, and

flew. I was too dumbfounded to shoot the second barrel. Shaking, I broke the gun to reload, and a second grouse went out, so close I could see its mottled plumage, its dark eye, the erect crest and the red-brown tail band. It disappeared into the pines.

I closed the gun woodenly. The woodcock went out, looking long-billed and silly, and it seemed pointless to do anything but stand there and watch.

I broke the little side-by-side and perched it over my shoulder. Holding on by the barrels, I walked to where the grouse had been sitting. Three feathers clung to the grass, damning evidence of a cheap trick played on a fine game bird.

I straightened and looked toward the tangle where it had flown. If I could flush and kill the bird, I might, in part, redeem the act. But the feathers said it was wounded, and probably it would run into the thickest blowdown. Without a dog, my chances of getting it were next to nothing.

I'd try, though.

My legs felt weary, and the gun, loaded again and held in front of my chest, seemed a burden. All the brightness and beauty had gone out of the day. Bitter had tainted sweet, greed had shouldered honor and dignity aside.

I would look for the grouse and then cross the run in the bottomland and go home. I saw that I still had many crossings to make that season, and was glad to be given the chance.

Ready To Go

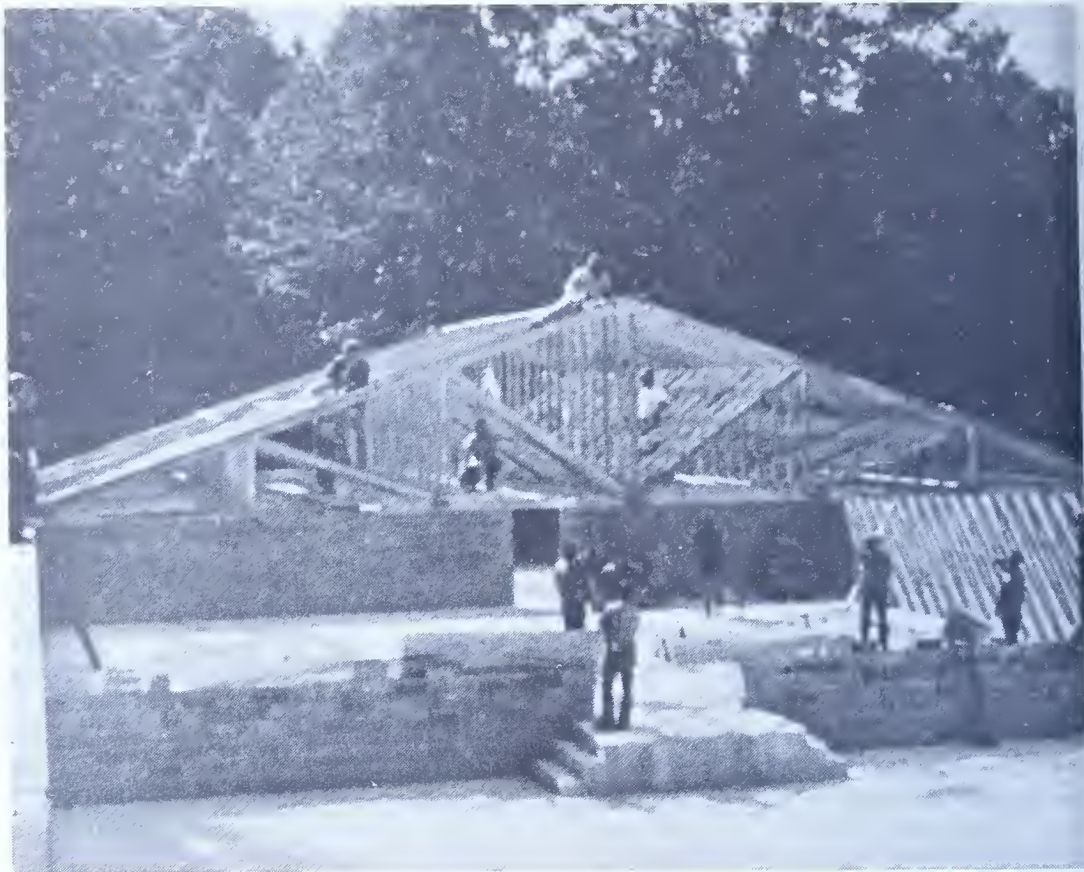
Unlike the cottontail rabbit, the young of the snowshoe rabbit are born fully furred, with their eyes open and can run around on the day of birth.

Long Skinny Breaths

Insects have no lungs. They breathe through tubes running all through their bodies.

Muscles All Over the Place

The grizzly bear is the only bear with a hump on its shoulders.



Archers and archery in a. . . .

Common Cause

Photos from the Author

Keith C. Schuyler

DEPENDING SOMEWHAT upon the whims of the weatherman, this is the month when target archers get itchy (and sometimes blistered) fingers. It is also somewhat dependent upon whether there is a target in the backyard, a pieced-together target or field range, or a complete and modern layout similar to that owned and operated by members of Hemlock Field Archers, Inc.

There is a special satisfaction in this corner to see a development like the Hemlock Club near Lebanon, for accommodations such as these are the backbone of all archery and should guarantee that it will continue as one of

the fastest growing outdoor sports in America. This one, on June 4 of last year, had special interest for me, as my name was on a program among such notables as Clayton Shenk, secretary of National Archery Assoc., Gordon Shutter, mayor of nearby Cornwall, and Ray Atz.

The occasion was the formal dedication of what certainly has to be one of the outstanding archery complexes in the country. Most importantly, some 179 members, who with their families then made up about 350 participants, now could look forward to a permanent center for archery activities.

Although club grounds are quite spa-

ious, finding the club is not easy. It is situated off Route 72 about a mile north of the Lebanon-Lancaster interchange of the Pennsylvania Turnpike and six miles south of Lebanon. Turn east off 2 at Spring Hill Acres sign, after which you pick up the Hemlock Archery signs. The total accommodation is about one-half mile off Route 72.

A look at what went into this development should be encouraging to other organized archers. It takes big thinking and a certain amount of intestinal fortitude to embark upon such a program. Yet those who complain about a poor local setup, or the complete lack of one, might be encouraged to take the first step in the knowledge that it can be done.

It was June 5, 1954, almost 23 years to the day before the grand opening of the new clubhouse, that six men got together and formed the Hemlock Field Archers. Roy Eckert was named president and other officers included Vice President Wilmer Ruhl, Second Vice President Vernon Leeper, Secretary Lindy Waltman, Treasurer Charles Waltman, and Field Captain Claude Gible. Six days later the club was accepted into Pennsylvania State Archery Association, and it has been represented at every meeting since. The first shoot was held on June 11, 1954, six days after organizing.

Original activity centered in a small building that served as a clubhouse on property owned by Bethlehem Steel Co. Founders were hunting oriented, and field shooting was the focus of activity. Enthusiasm of the growing membership was evidenced in an unsuccessful bid for the state field shoot in the first year. A system of deer awards was established several years after the club started and it has been an annual event to date. As the club grew, incorporation became advisable, and

this was accomplished on April 13, 1957.

An important move in 1958 was the purchase of a wire baler. This honorable though ancient mechanism still serves. It has also been a source of revenue, for the club has been able to provide target butts for many other archery groups. The antiquated machine has unsuccessfully been sought after by a number of historical societies and antique hunters.

46 Inches of Snow

The following winter was a rough one, and 46 inches of snow fell on the property. Paneling of the inside of the old clubhouse was underway, and a group of the members learned that even hip boots were insufficient to keep out the snow on the half-mile walk from the main highway. Nevertheless, the job was completed.

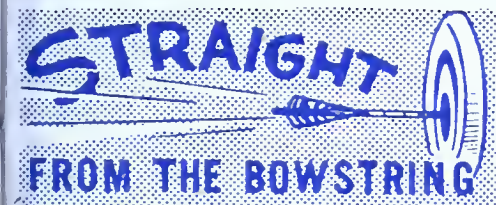
Five years after the club was organized, continuing membership was obtained in the Pennsylvania Federation of Sportsmen's Clubs. On August 20, 1961, the Hemlock Club was awarded the Southeast Regional Championship Shoot. By then, 56 targets had been installed. Including 1977, the club has hosted the Southeast Regional for nine of the past 17 years.

Another advancement for 1961 was presentation of the First National Field Archery Association Charter.

For the first 12 years, illumination was provided by gas lights. In 1966, the club bought an electric generator. The following year officers met for the first time with representatives of Bethlehem Steel Co. to discuss the possibility of purchasing land from this company. Nothing concrete came out of that meeting, but a seed had been sown.

Commercial electricity was hooked up for the first time in 1969, and from then on club conveniences were limited only by money available. The electricity made possible, in addition to better lighting, air-conditioning, television, running water, and an oil furnace.

In July of 1972, an agreement was made to buy 81 acres of land from Bethlehem Steel Co. This included the spot on which the old clubhouse was located. Twenty-nine months later, the



final mortgage payment was made. To satisfy this debt, members of the club went all out with roadside sales, an increase in dues, and a few other money-making activities.

During this period, a building committee was formed and several plans were considered. A building fund was created and on June 11, 1976, the building committee was given a green light. The following month the foundation and floor were laid. By December of the same year, facilities of the old clubhouse were transferred to the new building.

Although under roof, the new structure was far from complete. Every evening and weekends were "work-days" throughout the winter, as paneling, plumbing, and wiring were completed. Aside from excavation and laying of the concrete blocks, all work was done by club members.

From the first clubhouse, which was limited to gas lights and a two-burner kerosene stove, the extremely modern and attractive building stands as a monument to considerable faith and hard work.

Although the accompanying photos



CLUB PRESIDENT Tom Patches holds ends of ribbon that have just been cut to open the clubhouse, an impressive building which has room for many activities.

provide a rough idea of the totality of the quarters, at the opening only the restaurant area had been completed. The impressive layout includes a gas range and oven, a grill, large refrigerator and a cooler. The total restaurant area measures 41 x 48 feet and provides plenty of room for dining, a jukebox, pool table, and other activities.

This still permits an indoor archery area of 77 x 48 feet, and 20 indoor lanes were set up for this past winter.

Outside are two full 28-target field ranges in addition to plenty of room for regular target shooting. A seven-field target range has been set up just for broadhead shooting, with the intention to expand this to 14 targets. In all, the accommodations provide a country club atmosphere to satisfy the most demanding.

Small Debt

Financially, the club has an investment in land of \$23,000 and the clubhouse is currently assessed at \$20,000. Nevertheless, at the beginning of 1977 winter shooting the total debt was only slightly over \$6,000.

Those in office at the dedication included President Tom Patches, Vice President Bob Shelley, Treasurer Carol Sausman, and Secretary William Repert, who has held this office for the past 20 years. Directors are: Frank Ditzler, Al Gible, Bruce Reich, Lynn Shelley and Dick Sausman. Annual elections are held in December and new officers begin their terms January 1. Individual membership at the time of this writing was 245. Since this represents a number of families, the total shooting membership is now some 490. Only one membership is counted for each family including juniors up to 18 years of age.

This somewhat intimate view of Hemlock Field Archers, Inc., is given as encouragement to other clubs that would like to perpetuate archery in any given area. It took a long time to present this outstanding archery arrangement to those over the wide area which the club serves, but the usual dedicated group incident to such accomplishments stuck together to make it possible.

For those who enjoy the association more than the archery, the sense of accomplishment is no less. A note of sadness was injected into the festivities in a tribute to Paul "Pop" Gundrum who died before the project was completed when he was 74 years of age. Mrs. Gundrum was present to acknowledge the tribute. Pop was as familiar to the club members as target No. 1, and he monitored every activity of the club over a long period of years. Yet he was physically unable to be an active shooter.

Archery is like that. And in many clubs there are those who enjoy the general good fellowship attendant to this sport even though they are unable to actively participate in actual competition.

The program following the dedication was a mixture of nostalgia and commendations. It's not the sort of thing that would interest anyone outside the club itself, but it provided a biography of sentiment and hard work best exemplified by the new physical accommodations.

In the works now are plans to air-condition the new clubhouse and add a fireplace. Also, a large open patio is among the other improvements slated for the future. Past experience indicates that Hemlock Archers can and will do just about anything that will benefit the members.

No Limit

With spacious indoor quarters for the cold months and plenty of room outside for field shooting and target shooting, there is practically no limit to the programs which can be planned.

But, aside from all that is contained within the property lines of Hemlock, the special friendships that have developed will likely continue to hold the close-knit and active club together. Each year there are trips to the ocean, get-togethers at the river cottage of one of the members, and other activities near and far.



RICHARD SAUSMAN, chairman of the building committee, hands keys to **President Tom Patches** as **Carl Brady**, land and property committee chairman, serves as master of ceremonies.

In travels around the state at the more important tournaments and as a guest at the various clubs, it isn't difficult to sense that special something which accrues to any group that works together. You see it at the state and national shoots when shirts and jacket with club emblems leave no doubt about some clubs that are represented. It isn't even necessary to look closely to determine that these groups are having fun regardless of their scores. Each archer is out to improve himself, but the collective spirit of these groups is something special. Perhaps some of the special respect these people seem to have for each other was gained while laying blocks, or nailing roof stringers, or mixing mortar, or painting walls.

One definition of a club is, "to unite or combine for a common cause." Hemlock Field Archers, Inc., certainly fits this definition. But what the club has accomplished is anything but common.

Don't Mess With Cheeta

The chimpanzee has terrific strength, equal to that of several men.

Winter winds are whistling, snow is everywhere, and summer is a long way in the future, but now is the proper time to buy . . .

THE CHUCK RIFLE



WHILE TOM LEETE AND MILT ANDERSON watch, Helen Lewis takes aim at a chuck the camera couldn't show. Objects near far end of field are large bales of hay, not woodchucks!

By Don Lewis

Photos by Helen Lewis

"I DON'T LIKE TO bother you on such a bitter night, but I need some first-hand advice. Don't tell me how cold it is at your place, I saw my two beagles using jumper cables this morning to start a rabbit. How about setting me up for eight o'clock," the phone caller asked.

He was sure right about it being cold, and I didn't see a lot of humor in his beagle joke since I had heard it twice that same day. But I agreed to the appointment even though I had no idea

what he wanted and I hadn't had the presence of mind to inquire. I guess the cold had numbed my limited thinking faculties. After running a gunshop for years, along with writing magazine and newspaper articles, I accepted the fact there would be times like these.

My visitor arrived on time, and once inside over a furnace register, lost no time in getting to the point. He was dead serious when he said, "You may think I'm a little off course, especially when it's so cold, but I'm in the mood

or buying a new chuck rifle and I'm confused."

"Why pick the worst time of the winter to ask me about getting a new chuck outfit? The stores are full of them. All you have to do is plunk down some cash and you've made a deal."

"Not so fast," he cautioned. "There's no better time to make a deal on a rifle, you know that as well as I do. And I want to buy now, but I'm not sure which one. I have a feeling you'll suggest the 220 Swift, but I don't think it will fill my needs."

"Did you come for advice or to argue?" I asked with a smile. "Seems to me you've already made up your mind, but I'm curious to know why the Swift wouldn't fill the needs of any long-range varmint shooter."

Our conversation stopped long enough to accept two steaming mugs of hot chocolate that Helen brought in, and he gave her a five minute dissertation on what he thought was best. When she left, he rambled on for five more minutes, throwing in a number of compliments about my chuck shooting knowledge, but this wasn't making it any easier for me to help. I finally put on the brakes and asked him to listen to a little sound advice. I explained there wasn't one model of rifle or even one cartridge that held the distinction of being the very best. I ran the gamut of varmint cartridges from the little 17 caliber to the powerful Remington 7mm Magnum, giving a detailed account of what each would do, and then came back to my question why the Swift wouldn't fill his needs if I decided it would be best for him.

"Well, could be I'm not revealing everything, and you could be thinking in terms of chuck hunting only. Really, I was hoping you would say the Swift, along with convincing me it could be used on whitetails come December."

"I won't deny I think the old 220 Swift is a super cartridge for small-bodied varmints, but I honestly can't suggest any 224 bullet for game as large as white-tailed deer. The Swift has tremendous speed, and much has been written about how cantankerous it is, but this publicity, both good and bad,

still doesn't make it a combination woodchuck/deer cartridge. If that's what you have in mind, you'll have to go to heavier bullets to meet big game standards."

"I can see now that you aren't going to suggest anything in the regular varmint line, but what about the 6mm cartridges? Both the Remington 6mm and Winchester 243 are common in the big game woods nowadays."

"Very true," I answered. "You also see a lot of baseball caps at the ball park, but that doesn't mean there's that many ball players. The 6mm bullet is basically a varmint type and offers no more weight than 105 grains. To me, that is still relatively light for either deer or black bear. I feel a suitable whitetail bullet should start at about 120 grains, and that's still somewhat on the light side. It takes a tougher constructed bullet along with enough lead to penetrate. Bullets that shatter instantly after impact or have no ability

CUSTOM DUMOULIN 22-250 topped by 10x Unertl varmint scope proved the proper combination for taking this large chuck at long range.



to penetrate shouldn't be used in the big game woods."

"Now that you've taken me out of the 224 and 6mm class, what would you suggest?"

"This depends on what you're basically buying the cartridge for. If you intend to hunt deer two days and varmint two months, I would stick with one of the 6mms or step up to the Remington 25-06. I think the 257 caliber is adequate with the 120-grain slug, and you can drop to 60 for varmints. The ones I fired suffered in the accuracy column with the super light slugs, so I stuck with the 87-grain spitzers for long-range varmint shooting."

Our conversation swung back and forth for another hour. When he departed, I felt he would stick with the 25-06. He did admit the combination cartridge was more a figure of speech than a reality. I didn't push the idea of the varmint cartridge to this fellow simply because his needs ran more in



ANOTHER 22-250, this one a M700 Remington Varmint model with 12x Leupold in Redfield Jr. mount. This outfit has taken hundreds of chucks in the last few summers.

the big game line. I oppose the idea of using large-caliber bullets for chucks, but there's no question that the 25-06 has plenty to offer both the varmint and big game hunter. I proved this on a windy day using the Ithaca LSA 65 with a load straight from the *Speer Number 9 Manual*. I was using the Speer 87-grain spitzer in front of a heavy charge of Hodgdon H414 ignited by a CCI 200

primer. Velocity according to the manual would be 3344 at the muzzle and 2729 at 200 yards. I was reaching out another 100 yards, and the 25-06 outperformed several 224 jobs using 55-grain pills.

Many times, I'm put on the spot over which cartridge is best for varmint, and normally I shy away from a direct answer because the subject is too involved. There are too many factors. I have a 17-caliber Model 700 Remington that is deadly up to 200 yards on steady days. If all my future chuck hunting would be done at that range or less, I could stick forever with the 17 or the Bee or Hornet. Of course, some shots are going to be farther than that. Probably the most versatile cartridge to come along is the Remington 222. It has a range potential of 275 yards or so, but again, there can be no wind. The Swift and 22-250 probably hold the edge under most normal conditions, but with all their speed, each lack something on windy days when distances stretch out.

Custom Outfit

Personally, I'm willing to toss aside the much talked about combination outfit. I'm not saying the 6mm's, 25-06 and 25-06 won't qualify for this role, but I've reached the conclusion over the years that a varmint rifle should remain a varmint rifle just as much as a baseball bat is a baseball bat designed for one purpose. It would be a real surprise to see a fellow step to the plate with a putting iron. I intend to keep the varmint rifle and big game rifle separate, and this allows me to go for the varmint type configuration, including a heavy barrel, adjustable trigger, thumbhole stock, and high-power scope for chuck hunting, and a compact, lightweight, short-barrel deer outfit.

By no means am I being critical. I am pointing out there is a difference between the two outfits because the requirements are so different. From a financial standpoint, the combination outfit has advantages, and I don't blame any hunter for trying to use one rifle on both varmint and big game. But I am cautioning the prospective buyer that it

might be wiser to invest more in the rifle that will get the most use and settle for a reasonably priced used outfit or the other hunting. I have a friend who took my advice and went all out for a dandy scoped deer rifle and was fortunate enough to pick up a used 222 for half its original price.

During the conversation with the gentleman mentioned in the opening of his article, he kept asking for rifles that had special features such as a completely adjustable trigger. Several companies offer adjustable triggers, but I have always bemoaned the fact that few gun companies really go all out to produce a genuine three stage trigger setup. The varmint rifle is no better than its trigger. Some adjustable triggers I've seen on the market offer nothing more than a means to reduce spring tension, and this does little but reduce pulling weight. That in itself is not enough. The weight of pull or energy required to release the trigger is not the only criterion. A good trigger should be crisp, free of play, and have no over-travel after the trigger is released. Back a few years, when a good many varmint rifles were being built on M98 Mauser actions, I transformed a number of them from the mediocre to the supreme by simply installing an adjustable trigger. Many varmint hunters who felt they had wasted money on the custom job were pleasantly surprised with the way their new outfits shot after new triggers had been installed and adjusted.

Another thing that has always plagued me is the failure of gun companies to offer the thumbhole stock as an option. Besides enhancing the target type rifle—and that's what a true varmint rifle basically is—the thumbholer permits a straightline trigger pull. In my book, the shooter can lead the trigger better, and that in itself is reason enough for this option. The



HEAVY BARREL RUGER NO. 1 with 12x Redfield 3200 scope is one of Helen Lewis's all-time favorites for chuck shooting, as is the cartridge—the 22-250.

success or failure of a shot often hinges on the trigger pull, and the hunter using the stock with the gaping hole through it has a decided advantage.

My mail indicates there is still a lot of desire among chuck hunters for the custom outfit. The rifle that is assembled on an ex-military action and fitted in a handworked stock leads many varmint shooters to believe it has a distinct edge over the factory product. I doubt if there is any hunter who yearned more for the handmade outfit than I did. After returning from World War II, I could think of nothing else. Through the 1950s, I latched on to a number of good factory jobs, but nothing had the appeal that the hand-built rifle had for me.

Gained Nothing

Slowly but surely, I traded or sold some good factory jobs and invested in several special outfits. I've explained before how this was a wrong move. Nothing I bought or had made showed any marked improvement over the good factory jobs that were coming on the market. I gained nothing in the accuracy column, and that is the heart of a varmint rifle. In fact, I'm only interested in the first shot from an unheated barrel. I had a 243 that would throw the first shot two inches from the



aiming point, and then put the rest right on the money. Needless to say, it wasn't one of my favorite chuck outfits even though it was a beauty to behold.

I'm not against the custom outfit, but I think the builder or investor should be aware of the high cost along with the possibility not too much will be gained in the field. A friend of mine spent over \$600 for a fancy outfit that had trouble staying in 1½" at 100 yards. My friend, who had come through the great depression era, finally admitted he hadn't bettered himself any by spending more money on a rifle than he had made the entire year of 1934. Now it is nothing more than a conversation

PROVING THAT heavy outfits and high-power scopes are not necessary for all chuck shooting, Tom Leete shows what can be done with his peep-sighted 222 Magnum.



piece, gathering dust in a corner.

There's no way of telling what outfit will be the best except by actual firing tests. We tend to think in terms of high costs, but this isn't always true. Of the 220 Swifts that have passed through my hands, a battered secondhand Model 70 that was supposed to be shot out gave better results with a large variety of loads than any Swift I have shot since. Many varmint hunters shy away from the used varmintier. The main fear is the shot-out barrel. Well, it might be interesting to know that I have seen very few shot-out barrels and that worry would be the farthest thing from my mind. Other than a dedicated handloader who might fire several thousand rounds in a year, the average chuck shooter won't shoot out a barrel in ten years.

I had a Sako 22-250 that was supposed to be in the worn-out class, but with 37½ grains of 4320 pushing a 50-grain match bullet at better than 350 fps, I could stay under one inch for three shots nine times out of ten. Some years ago I was fortunate enough to get a discontinued Winchester Model 70 that uses the 225 cartridge. I have had good results with 38 grains of 4064 and a 50-grain Speer or Hornady slug. My Oehler Chronotach shows this load to have a muzzle speed of around 380 fps, and that's moving out, but it still groups well after many rounds.

I'm a single-shot buff, and an aging Ruger No. 1 22-250 still does an impressive job with a variety of 52-grain match bullets. In fact, I don't get much above an inch at 100 yards even with some trial and error bullets made from fired 22 rimfire cases in Corbin dies.

No Worry, No Fret

There's no need to worry and fret over which cartridge to buy. Bring it down to terms of terrain and distance and go from there. Where noise could be a problem, stick with the smaller cartridges such as the Remington 222. If distance is the sole consideration, go with the 6mms or the 25-06. The Model 77 Ruger and the 112V Savage in 22 Swift are excellent outfits. I've shot them on the range and in the field with results that would please the most de-

handling of woodchuck shooters.

My last bit of advice is to reload. The heavy barrel varmint rifle normally has plenty of accuracy potential, and the only way this can be brought to ultimate fruition is by shooting a wide variety of primer/powder/bullet combinations through it. I stick with loads suggested in the manuals, and I don't go for ultra-hot jobs or barrel-scorching velocity. I want my barrel to last for years, and I'm not foolish enough to think the super-hot loads have anything to offer but eventual disaster. Accuracy is the name of my game, and seldom does it come when velocity is at

maximum.

Take it from me, finding the right load is time consuming and incurs some expense, but since the varmint rifle must be more precise than the big game outfit, it has to have a load tailored for it. With time and patience, that goal can be achieved, and the end result will be a rifle/load combination worth all the time and money invested. Like the fellow said, it's time now to get started 'cause it will be only a couple of months until ol' man chuck wakes up to see what conditions are like for his hole diggin'. Why not be there with a top outfit to change his plans. . . .?

Books in Brief . . .

(Order from publisher, not from Game Commission)

Wildlife Country—How to Enjoy It, National Wildlife Federation, 1412 16th St. NW, Washington, D.C. 20036, 208 pp., \$12.95. This book is handsomely dressed with full-color photos. It tells about places to go and things to do in exploring the wildlife country of America, with sections from writers who have actually done the things they talk about. Included are how-to-save-money tips on such things as sewing your own down-filled parkas and cooking gourmet style for only a few pennies. All seasons are covered, with instructions on finding drinking water where there apparently is none, building a snow cave for shelter, etc., and there's good information on using compasses and treating wilderness accidents. There are many trail-tested recipes, a chapter on photographing wildlife, and, of special interest, travel tips to the ten greatest wildlife watching spots in America.

Hunting the Uplands with Rifle and Shotgun by Luther A. Anderson. Winchester Press, Inc., NYC, 214 pp., \$10.00. Covers most upland species in North America—birds, small mammals and deer. Chapters on choosing firearms, ammunition, clothing; hunting tactics; woodsmanship and safety. Breadth and coverage of basics make it good for beginning hunters, but experienced hands may not find the depth they want.

Gun Digest Treasury, 5th ed., edited by John T. Amber, Digest Books, 540 Frontage Rd., Northfield, Ill. 60093, paperbound, large format, 288 pp., \$7.95. A selection of outstanding articles from the first 30 editions of *Gun Digest*, including pieces by Jack O'Connor, Lucian Cary, Pete Kuhlhoff, James Serven, Bob Bell and others, plus author and subject indexes for all *Gun Digests* and *Handloader's Digests*.

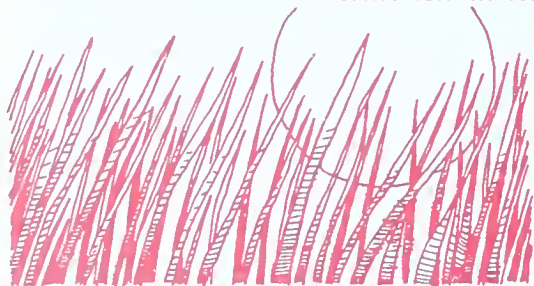
Answers to Your Mushroom Questions Plus Recipes, by Donna Myer, Mushroom Cave, P.O. Box 894, Battle Creek, Mich., 49016, paperbound, 80 pp., \$4.70 delivered. Lists 134 commonly asked questions about wild and commercially grown mushrooms and answers them in non-technical language. Many fascinating tidbits of information, as well as tempting recipes.

Halt! I'm a Federal Game Warden, by Willie J. Parker with Conway Robinson, David McKay Co., 750 Third Ave., NYC 10017, 210 pp., \$9.95. Highlights from the career of the man who has been called "the toughest game warden of them all," this book gives an inside look at the problems a federal officer has enforcing the game laws. It's down to earth, humorous, at times scary.

In the wind

toni williams

information writer



The battle to maintain water quality in the nation's precious remaining wetlands continues. Several environmental groups as well as geologists from two universities oppose plans of the Federal Energy Administration to store crude oil in possibly unstable salt domes. They fear oil spills as well as contamination from open brine ponds near the domes in southern Louisiana and Texas wetlands.

Some discouraging news comes from the American Chemical Society. At least three "non-persistent" pesticides, including parathion, have been found not to disappear in soils, as formerly thought, but to simply escape detection by adhering closely to soil particles. It's not yet known how this may affect wildlife, if at all. But now scientists are looking.

Even the Bureau of Outdoor Recreation is getting into the act of energy-consciousness. It is pushing for development of recreational facilities within easier reach of population centers to ease the energy and pollution problems associated with long-distance transportation. The Bureau is cooperating with the Department of Transportation on the "Bikeways for America" program as a part of this thrust.

Fairfax County, Virginia, has banned "pop-top" carbonated drink cans and put a 5-cent deposit requirement on conventional soda cans. Though a great first step, it may not have much impact yet; surrounding areas lack such regulations and the ban doesn't cover beer or noncarbonated drinks.

Two research projects at Penn State hint that the effects of pollution on wildlife may be more complicated than we thought. Disease resistance in animals exposed to silica dust (blamed for miner's black lung disease) is lowered, and researchers suggest this may be true for other pollutants. Single high doses of several pesticides and continual low doses of another decrease the body's ability to make antibodies and activate white blood cells, two ways of fighting infection. Side effects of pollution may be as important to wildlife as direct toxicity.

Snowmobiling ranks next in line after tennis and snow skiing as the fastest growing sport in the nation, according to a recent survey. In the three years between 1973 and 1976, the number of snowmobilers increased almost 20 percent.

Pest control the natural way is Satellite Beach's way. This Florida city, like many areas, has rat problems. But this city instead of hiring human exterminators with traps and chemicals, decided to stock a couple of red-tailed hawks and a barn owl. So far they seem to be doing a pretty good job, the owl at night and the hawks by day—good enough that the city now plans to get more raptors from the Florida Wildlife Service.

Every day is Arbor Day in the Philippine Islands now. Because of rapid denuding of forests for timber, President Marcos decreed that every Filipino over 10 years old must plant a tree each month for the next five years, and nurture it for two years, replacing it if it dies. Fruit, shade, ornamental or forest trees may be planted, so it's not just to rebuild the timber resource; erosion, flooding and siltation are other concerns.

More new life on Earth has been discovered, this time in subfreezing water under Antarctic ice. The tiny creatures are animals, but look a bit like trees one or two inches tall. They have no mouths and are thought to feed by surrounding food particles with a pseudopod (rather like an amoeba feeds) and perhaps also by taking up nutrients from the mud into which root-like extensions reach.

IT'S THE LAW



NOT ALL GAME LAW VIOLATIONS ARE INTENTIONAL. AS A SERVICE TO COMMONWEALTH SPORTSMEN, GAME NEWS, IN COOPERATION WITH THE DIVISION OF LAW ENFORCEMENT, TAKES THIS MEANS TO BRIEFLY CLARIFY SOME OF THE MOST FREQUENTLY MISUNDERSTOOD OR LEAST KNOWN GAME LAWS.



QUESTION —

IS THERE A BOUNTY ON HORNED OWLS ?

ANSWER —

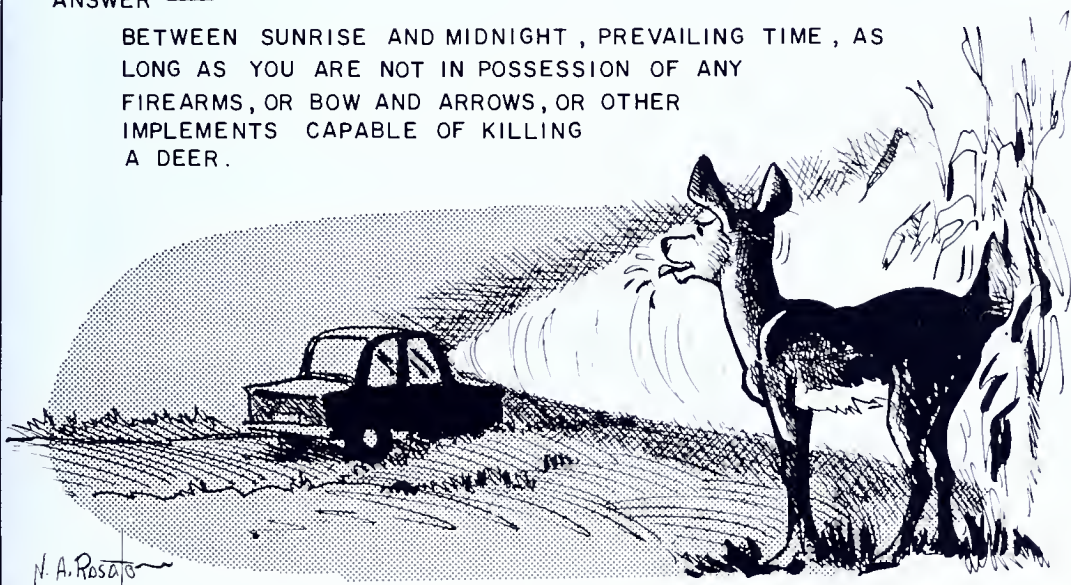
THE BOUNTY WAS REMOVED FROM HORNED OWLS AND ALL PREDATORS IN THE MID-'60s. ON MARCH 10, 1972, THE HORNED OWL, AS WELL AS ALL THE HAWKS AND OWLS, WAS PLACED ON THE FEDERAL PROTECTED LIST.

QUESTION —

WHAT HOURS MAY I SPOTLIGHT FOR DEER ?

ANSWER —

BETWEEN SUNRISE AND MIDNIGHT, PREVAILING TIME, AS LONG AS YOU ARE NOT IN POSSESSION OF ANY FIREARMS, OR BOW AND ARROWS, OR OTHER IMPLEMENTS CAPABLE OF KILLING A DEER.



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COVER PAINTING BY NED SMITH

What makes a gobbler strut? Strutting is supposed to attract a hen for mating—but what makes him do it? Part is ingrained; young poults without tail feathers to spread or pinions to drag nevertheless will do their tiny best to strut even if they've never seen an adult turkey. It's controlled by hormones, which in turn are controlled by day length and temperature. Whatever the *reason*, the strutting gobbler's *effect* is to excite not only unmated hens but any human lucky enough to be nearby—especially if he's coming in to a call.

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Thoughts on Numbers and Stuff

MATHEMATICS WAS ALWAYS my worst subject, yet there are times when numbers are interesting. This was pointed up recently when the U.S. Fish and Wildlife Service sent along a booklet entitled "1975 National Survey of Hunting, Fishing and Wildlife-Associated Recreation." Such nationwide surveys are carried out every five years. (This is the most recent one. It takes a couple of years to compile the information into usable tables, which explains the three-year-old date.) This survey is the most comprehensive ever undertaken by the FWS. One of the significant additions was an attempt to assess wildlife-related activities of those who do not hunt or fish. Such information doubtless will increase in importance as the nonconsumptive uses of wildlife resources grow in popularity—a natural result of our population's burgeoning awareness of the environment and the wild creatures which live in it.

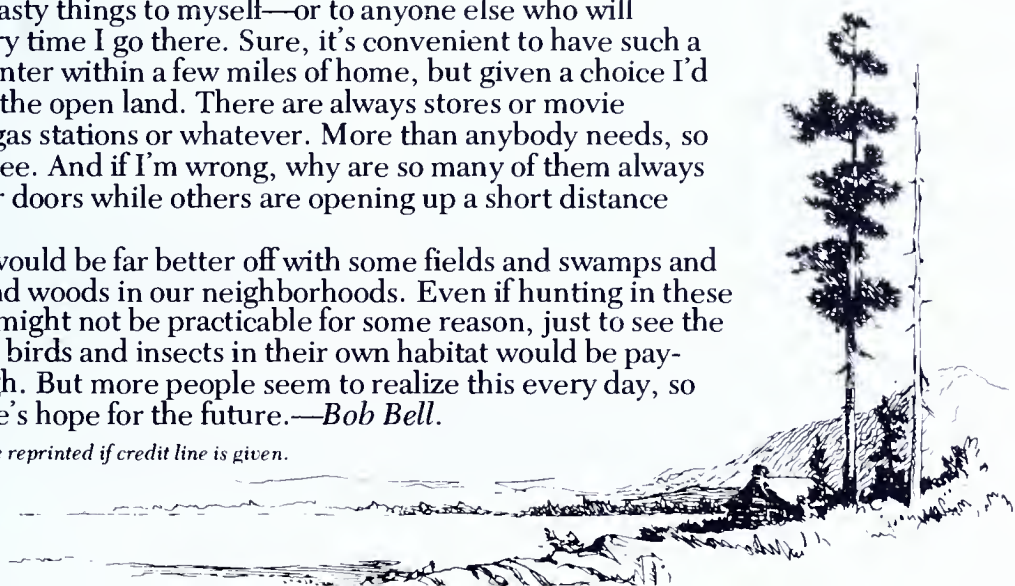
But back to the numbers mentioned above. The FWS survey indicates that in the U.S. in 1975, 20.6 million persons hunted. That's a lot of people—almost 10 percent of the population. To bring it closer home, in the same year 1,187,015 persons bought resident hunting licenses in Pennsylvania. That's 5.7 percent of the nation's total. However, Pennsylvania has an area of only 45,333 square miles, which is approximately 1.25 percent of the U.S. total. This means that our density of hunters (guys with guns per square mile) is over 4½ times as great as the national average.

This is something to be proud of. It's good to know that in one of the most industrialized states in the nation we have so many hard-core hunters. However, we must also recognize the problems that accompany such hunter density. If we have an increasing number of hunters on a given area of land, the average acreage available to each hunter must decrease. In the years that I've been hunting, license sales have almost doubled, so the pressure increase is something I've personally noted. Hunters older than I am have seen an even greater increase. It's a scary thing in some ways, for an individual can feel swamped by the change, overpowered by the sheer numbers involved.

Even if the total should stabilize, the situation would not, for the area available to hunting drops noticeably each year. Every new highway or widened rural road reduces wildlife habitat and hunting acreage; every suburban shopping center takes more land away; just building one new home in hunting country removes approximately 15 acres of open land, for no hunting is allowed within 150 yards of an occupied building. These are the kinds of things that never cease. A few years ago I hunted rabbits and ringnecks on land that is now covered by a shopping mall and its macadam parking lot. You can probably give similar examples. I say nasty things to myself—or to anyone else who will listen—every time I go there. Sure, it's convenient to have such a shopping center within a few miles of home, but given a choice I'd rather have the open land. There are always stores or movie theaters or gas stations or whatever. More than anybody needs, so far as I can see. And if I'm wrong, why are so many of them always closing their doors while others are opening up a short distance away?

All of us would be far better off with some fields and swamps and meadows and woods in our neighborhoods. Even if hunting in these small areas might not be practicable for some reason, just to see the animals and birds and insects in their own habitat would be payment enough. But more people seem to realize this every day, so maybe there's hope for the future.—*Bob Bell.*

Editorials may be reprinted if credit line is given.





FORAGER of the FIELDS

By Bill Betts

ANYONE WHO HAS spent much time in the large grass fields of Pennsylvania, such as farmers, hunters and nature hikers, has often perceived a beautiful and graceful light-colored bird float up from the ground, wraith-like, and almost casually drift away low over the grass, dipping from side to side as if it weren't quite sober.

I remember vividly the first time I ever saw this remarkable bird. I was just a youngster at the time, and was being taught how to hunt open fields for pheasants using wide-ranging English setters. This was an expansive field of light, wavy grass (what we used to call "moonshine") in Clearfield County, not far from Philipsburg. I was all keyed up, as beginning hunters are apt to be; I'd been cautioned by the other members of the party to be constantly on the alert, as sometimes a pheasant would flush without warning from the dogs.

So when this bird suddenly, about twenty feet in front of me, soared up from the deep grass, my gun was up. Fortunately, my instructors had just reminded me that hen pheasants were not legal game, and that one must be certain he saw the bright colors of the ringneck rooster before he fired. I didn't see any iridescence, or any white collar. What I did see was a creamy brown body and long wings and a vividly white rump.

"What's that?" I asked my companions.

"Some kind of hawk, I guess," replied one.

"It's sure not a pheasant," said another.

"Probably eats all the pheasants, is what it does," offered a third.

I don't know what it was especially that took hold of me at that moment, but then and there I resolved a small boy's resolve, determining to know more about this impressive bird which I had never seen before and which the others seemed to know all too little about.

When after other hunting expeditions I had seen the bird a score of times, I began to think about it not only with interest but also with affection. To myself I confided that I was going to get to know it as well as any real friend.

Many Names

The bird turned out to be a marsh hawk, though I soon discovered it was known by a great many different names: harrier, marsh harrier, frog hawk, bog-trotter, mouse hawk, white-rumped hawk, bog hawk, and rabbit hawk.

It is my opinion that this is one of the non-game birds most often shot, apparently because it provides such an inviting target. This is much to be regretted, as I shall hasten to explain.

First of all, there is no excuse for confusing the marsh hawk with the ring-necked pheasant. For one thing, it does not explode from the ground, but simply seems to float up. There is never any cackle, either, and there are not, as I noticed the first time, any of the exotic oriental colors which distinguish

the popular game bird. The marsh hawk simply does not look or act like a pheasant, not even like the hen.

Actually, the marsh hawk is common in Pennsylvania, though not nearly so abundant as twenty years ago. We all ought to know him by sight, but if you're like me, you probably have some trouble in distinguishing one hawk from another. Nevertheless, you should have little difficulty in identifying this one.

It is easily recognized. Most distinctive are the pure white upper tail coverts, very conspicuous in females and immature birds, a more bluish-white in the adult male but still highly distinctive. Besides this white rump patch, which reminds one of the flicker, you can recognize the harrier by its long tail, and long narrow rounded wings which it holds in a V when gliding low over the meadows.

This is the only hawk in the United States which belongs to that distinct group called the harriers. These are known for their slender bodies, long legs and unusually long tails.

It is not a large hawk. Adult males weigh about one pound, adult females a few ounces more. Body length, including the tail, is 18-24 inches and wing-

spread 40-54 inches. The male is very light in color, a rather pale or silvery gray, with black wing tips. The females and young males are a streaked brown. All show that prominent white rump.

The marsh hawk is almost exclusively a bird of the open country. It likes grasslands, abandoned and cultivated fields, and marshes in early spring. It doesn't like woodlots, and you will never see it in thick woods or in the heavily forested regions of our northern mountain counties.

Limited Hunting Range

Its hunting range is limited to perhaps a square mile, rarely a much larger tract than that. But its hunting field might be far from its roost, from which it flies at daybreak and to which it returns at dusk.

In spring these hawks are almost always seen in pairs. After the young are able to fly, they often go foraging in family parties, and later in the season may assemble into flocks of 20-50 individuals. Still, most of those which I have seen in Pennsylvania through the fall hunting season have been single birds.

The marsh hawk flies just a few feet above the ground, tilting from side to side. It hunts back and forth over the fields, quartering the country (not unlike a good bird dog) in a slow, somewhat vacillating flight, rising above the trees only when it means to move on to a new field. The harrier hunts much closer to the ground than do the red-tailed, red-shouldered, rough-legged, sparrow, or Cooper's hawks.

Once in the early spring, having coaxed my sister Amy into the farm chores, I watched a pair of these beautiful birds all day long. They never left the single field (about 50 acres, I suppose). The male seemed to be in the air more than the female, but rarely for more than a minute before landing. I did not keep a clock on them, but I have since read that these birds often hunt from their ground perches for as long as 75 minutes at a time, and of its total hunting time, over half is on the ground, in bad weather even more.

I have only two or three times seen a



MARSH HAWKS nest on the ground and eggs are usually laid in late April and early May. Incubation period for the eggs, which may number from four to eight, is about 3½ weeks.

marsh hawk perched at any height. When perched, he is almost always on the ground or on a very slight elevation such as a rock or post.

Ernest Thompson Seton has described how the male behaves during mating time, and I know from observation how accurate his account is. Says the author of *Wild Animals I Have Known*: "During the nesting season the male may be seen performing a number of extraordinary aerial evolutions. Sometimes he soars to a great height, then falls straight downward nearly to the ground, turning several somersaults during the descent, and uttering at the same time a reiterated screeching. At other times he flies across the marsh in a course which would outline a gigantic saw, each of the descending parts being done in a somersault and accompanied by the screeching notes, which form the only love song within the range of his limited vocal powers."

The marsh hawk is definitely not a songbird. Its call closely resembles the *kee-aahrr-r-r-r* of the red-tailed hawk, though it is not nearly so strong. It has been described as a "peevisish scream." Its distress call is a series of ten sharply sounded notes.

Much as I have tramped the fields through the glad days of spring, I have discovered only one marsh hawk nest. This was a very bulky nest, composed of rather rough weed stalks and grass. It was located right on the ground in a field of tall grass, though on a slightly elevated area. In this particular nest I counted five unspotted bluish-greenish-white eggs.

Nesting Territory

The marsh hawk selects its nesting territory during the last week of March, and the eggs are laid normally between April 26 and May 5. The incubation period for the eggs, which may number as few as four or as many as eight, is about 3½ weeks.

This is the only one of our hawks, so far as I know, which nests upon the ground, though I have been told that the pigeon hawk may occasionally deposit its eggs on the ground or on a ledge of rock.

We know that the rough-legged



THE MARSH HAWK is the only hawk in the U.S. which belongs to a distinct group called the harriers. These have slender bodies, long legs and unusually long tails.

hawk lays fewer eggs than normal when food is scarce, and it is thought the marsh hawk does the same. I do not know of any study showing specifically for the marsh hawk the effects of DDT and other pesticides on the quality of the eggshell, though I suppose it may be assumed that its eggshells, like those of the peregrine, osprey and other birds, become thin and fragile after it has fed on prey contaminated with certain pesticides. Certainly, for some reason, the number of marsh hawks in western Pennsylvania seems to have diminished in recent years.

Since the marsh hawk frequents fields and is often seen exactly where you had expected to flush a big ringneck, the impression among some hunters is that it preys upon game birds. Don't you believe it. Never suppose that the marsh hawk is responsible for the fact that you are not seeing ringnecks. The marsh hawk does not prey upon game birds.

For proof we have Leo Luttringer's Pennsylvania study completed in 1938. In this study, over a 13-year period the stomach contents of 2817 hawks were analyzed. The only species found to have taken game birds were the accipiters (the sharp-shinned, Cooper's, and goshawk).

The diet of the marsh hawk is varied, consisting of ground squirrels, frogs,

snakes, grasshoppers and other insects, small birds (mainly blackbirds and the smaller ground-nesting, grass-dwelling species), lizards, rats, and rabbits (often those wounded by hunters). But it much prefers to lunch on the many kinds of rodents found in the grass, such as the short-tailed shrew and various kinds of mice. For a long time now it has been quite properly regarded as the most active and determined foe of the meadow mouse, which in fact composes far and away the principal part of its diet. In fact, its winter diet has been measured at 93-98 percent meadow mice!

A story told by Walter Rosene in his fine book on the life and management of the bobwhite quail is of interest here. He describes how on the Friendfield Plantation near Georgetown, S.C., rat and mouse populations increased to fantastic numbers in the late winter of 1950: "Burrows on the sandy soil were so numerous in certain places that, while walking, one would sink shoe-top deep as they collapsed. This high population remained until March, when most of the 2500 acres burned over. An afternoon fire swept through the broom sedge so rapidly that many mammals could not get into their burrows in time to escape and were singed and died on top of the

ground. The next morning, at least 10 marsh hawks fed at one time on carcasses and caught live mammals. The live mammals were easy prey on exposed ground. In a few days the hawks were gone because their food supply had dwindled."

All of the evidence that we have points to an almost incontestable fact that the marsh hawk is not only one of the most useful of hawks to man, but actually one of the most beneficial of all birds. No less an authority than Dr. Fisher has declared that "its presence and increase should be encouraged in every possible way, not only by protecting it by law [which of course we now do] but by disseminating a knowledge of the benefit it confers."

So watch for this beautiful and useful bird. He will be arriving from the South sometime in March, probably before our uplands are completely free of snow and probably before the ice has left the marshes.

You can now recognize him easily, and you can get close enough to him to see how very handsome he is (though he looks a little like an owl in the face). And you can address him by any one of at least nine names. But no matter what you call him, let it express respect, for this forager of the fields is one of nature's elect.

Game Recipes Requested

We are planning to publish a paperback book of game recipes. Over the years we have received numerous recipes from GAME NEWS subscribers, and our mail indicates many readers are interested in this subject. Doubtless you have favorite recipes of your own. If you have a recipe for any game bird or animal which your family particularly likes, we would be glad to see it. No payment can be made for such material, but if we use your recipe we will give you credit as the contributor. Recipes should be typed or carefully printed on one side of the paper only, following the conventional format for such items. Submit to: RECIPES, Pennsylvania GAME NEWS, P.O. Box 1567, Harrisburg, Pa. 17120.

Where the Crawlers Came From

The first amphibians evolved 350 million years ago; 50 million years later, one of a now-extinct line of amphibians gave rise to the reptiles.

History, biology, management and hunting of—

THE WILD TURKEY

Our All-American Bird

By Gerald A. Wunz

PGC Wildlife Biologist

THE WILD TURKEY, our biggest game bird, is strictly all-American. *Meleagris gallopavo*, as he's known to scientists, was found in six similar varieties in the vast area from Wisconsin to Arizona, Maine to Florida, and southern Ontario to central Mexico, but nowhere else in the world.

Pennsylvania's turkeys belong to the eastern variety, *Meleagris gallopavo silvestris*, which originally ranged over most of the eastern half of our nation, and which has been noted as the wildest of the six subspecies of wild turkeys. These subspecies differ not only in temperament but also in color and physiology; each evolved to suit its own particular environment. Turkeys in the darkened forests of the East (*silvestris* means "of the forest") are darker-plumaged and able to withstand a more humid climate than western varieties living in a pale and arid habitat.

One of the two subspecies in Mexico was domesticated by the Aztecs centuries ago and taken back to Europe by the Spanish Conquistadores. Thus, there was no need for the American colonists to try to tame the turkey they found here—a fortunate circumstance which allowed the eastern race to remain wild.

Ben Franklin thought so highly of the turkey that he suggested it as our national emblem, but the now-endangered eagle won. The turkey was

once endangered, too, and why he isn't today is one of wildlife conservation's greatest success stories.

The wild turkey retains the prefix "wild" because he's considered by many hunters to be the wariest of all our game. His compact, computer-like brain is quick to sort out images perceived by fantastic eyes. If he sees a deer or bear, or even a fox, he may ignore it. But if he sees something walk on its hind legs, he flees on 25-mph legs or 50-mph wings that amazingly pass their five-foot spread through a tangle of treetops. Persecution by man has made him even wilder than his "naive" forebears.

Through history, the wild turkey



withstood the elements, animal predators and even the primitive hunting tools of the Indians, but couldn't stand the inroads of the most efficient predators of all, the settlers from Europe. The turkey's tasty meat and large size made it worth the shot and powder required to put it on the hunter's own table or to sell on the market. Wary as turkeys had become, they were no match for the year-round efforts of market hunters with their pen traps, bait and shot. But despite their efficiency, market hunters couldn't have eliminated the turkey over most of its original range without the systematic destruction of vast areas of its forest home by logging and farming.

In Pennsylvania, turkeys were forced from their best habitat in the lowlands of the southern half of the state to their last retreat in the southcentral mountains. The destruction of virgin forests, however, wasn't all bad for the turkey; massive clearcutting in the northcentral Allegheny Plateau region and the fires and excessive deer browsing that followed were setting the stage for an entirely new type of forest there. The "Black Forest" of pine and hemlock, where no turkeys lived historically, was

being replaced by a new deciduous broad-leaved forest of northern hardwoods such as beech, birch, maple, cherry, ash and red oak.

Meanwhile, turkey populations in the southcentral mountains increased under the protection of refuges concerned citizens, and a dedicated corps of state game protectors. Then turkeys began to spread northward. Finding the new northern hardwood forests to their liking, the birds responded with fantastic reproduction which increased their rate of spread through these continuous forests. By 1950, they occupied most of northcentral Pennsylvania. Turkeys continue to move into new range, but the rate has been slowed where the forest is broken by cities and large farming areas. Today, turkeys occupy more than 15,000 square miles, or three-fourths of the range available in the state. Nearly half of the state is considered habitable by turkeys.

Pennsylvania's turkey restoration is a lesson in conservation and ecology, an example of man working against and finally with nature. First, turkeys became nearly extinct because of man's greed and thoughtlessness, but then man turned and worked to save those left. The turkey population began to increase. Man also ravaged turkey habitat, but in time learned to protect the regrowth from fire and wasteful cutting. The turkey again responded by filling the new habitat that man and nature had created in northcentral Pennsylvania.

Needed: Basic Research

After turkeys were restored, the Game Commission's job still wasn't finished. If the surplus of turkeys were to be harvested safely, the Commission first had to know the amount of annual reproduction of this renewable resource. The Commission also needed to know how the habitat could be improved to produce more birds, because our human population was increasing and competing with turkeys for living space.

Biologists assigned to do this research soon found that much remained to be learned about this elusive crea-



WILDLIFE BIOLOGIST Arnie Hayden uses directional antenna to pick up signal from transmitter-equipped turkey—one method of locating these birds in Pennsylvania's forests.

ture. Beyond the basic observations that toms gobbled in the spring, had harems of several hens, and lived in the forest most of the time, not much was really known of the turkey's life history and specific habitat requirements. Fortunately, the turkey had such appeal that many other Game Commission people throughout turkey range voluntarily pitched in to help the researchers in their studies.

First, folklore had to be separated from fact. For example, many hunters thought that old gobblers traveled with each flock of hens and young turkeys as a sort of guardian patriarch. Actually, the old gobbler couldn't care less about the welfare of the flock. Except during the spring mating period, he's perfectly content to stay in a small flock of old gobblers. If you happen to see one consorting with hens and young at any other time, it is most likely to be a chance meeting or at least a temporary arrangement.

During early spring, it's a different story; then the polygamous gobbler can be very friendly to his harem. Early each morning his gobbling beckons them to watch his pompous strutting, tail erect and fanned, wingtips dragging the ground, head and neck showing blue, white and vivid scarlet.

Nesting and Brooding

After mating, the researchers found, hens selected nesting sites in the forest (rarely in fields), usually in good cover of laurel or the brushy top of a downed tree, but sometimes in the open woods at the base of a large tree. Hens weren't fussy about constructing a nest (they just lay about a dozen eggs in a leafy depression on the forest floor), nor did they seem particular about the type of cover in which they nested. Thus there seemed to be no need to manage for nesting sites; usually enough cover occurred naturally or from timber cutting.

A lot can happen in the 28 days it takes the hen to incubate the eggs. A flood, a late spring snowstorm or disturbance by man or predators can destroy the eggs or sometimes cause the hen to desert the nest. But if all goes well, the peak of hatch for most



TURKEYS SPEND every night roosting in trees—even poults, which can fly when only two weeks old. This lessens the danger from ground predators.

turkey broods is usually in late May and early June—about the same time fawn deer are being born.

If the hatch occurs much earlier than this, there is always the danger that cold rains will follow. Wild turkey poults, however, are not as susceptible to chilling as their domestic cousins which originated in the warm, dry climate of Mexico. Our wild turkey poults can withstand a prolonged period of rain if the temperatures are normal or above. After all, our wild birds evolved in Pennsylvania's cool, wet climate and they'd never have survived this long if they couldn't take it. Even under the worst conditions, wild turkey reproduction is unlikely to be a complete failure because all hens don't nest at the same time, and some whose nests were destroyed may renest later in the summer. Hens which have lost their broods, however, have not been known to attempt a second nest.

The hen doesn't linger at the nest site after her young are dry and rested from the strain of pecking their way out of their imprisoning eggshells. A day or two after hatching, the precocious poults may already be following the hen half a mile from the nest.

A turkey hen with little poults to care for is just about the sharpest creature in the woods. She has to be, because this is when her young are most vulnerable to a winged predator or a fox. Predators catch a few, but they catch many more mice and chipmunks, which compete with turkeys for food. Predation (except by human poachers) has not been a serious threat to turkey populations anywhere in their American range. Fortunately for the poults, they can fly when only two weeks old, and after this the danger from ground predators lessens. From this age on they spend every night roosting in trees.

Preferred Habitat

Before tiny radio transmitters were developed to strap on a bird's back, locating a turkey hen with a young brood was like finding the proverbial needle in a haystack—particularly when all habitat types had to be searched uniformly on foot to eliminate bias in determining the turkey's preferences. Early in these searches, biologists noted a definite preference by hens and their broods for forest clearings, glades or orchard-like savannahs in which the ground was covered with grass or other green plants. Usually a source of water was nearby. The young poults fed on the green vegetation and, even more, on the abundant high-protein insect populations found in this type of vegetation.

To confuse the matter, some hens also were able to raise large and healthy-appearing broods in the forest where this grassy vegetation and associated insects were scarce, but where certain kinds of brushy cover (especially overhead cover) were present. Consequently, research is now underway to determine if grassy clearings with lots of insects are necessary. If they are essential, creating small clearings in monotonous areas of solid forest canopy could be an effective and practical way to increase turkey populations.

While researchers were finding out where the broods were being raised, they also tried to catch poults for marking, which would give a life record of each bird almost from the time it hatched. But catching these precocious little ones proved to be no easy task. The ever-watchful hen had to be sighted before she could conceal herself and her chicks, then the researcher had to be in good running form for the 50-yard dash needed to chase the hen away before all of the poults could scatter, hide, and freeze in response to her alarm call. If lucky, the poult-napper caught one or two. Occasionally, a chick's distress cries triggered threatening charges and even attacks by the hen. More often than not, however, she feigned injury to divert the molester's attention long enough for all poults to hide.

GOBBLERS LIKE TO DO THEIR spring courting of hens in forest clearings.



Poult are so well camouflaged that when they remain motionless in grass or leaves, finding one is unlikely. Meanwhile, the hen sits in a nearby tree and keeps up a nearly constant chatter which translates into, "Stay hid, kids!" This hide-and-freeze behavior is a survival trait passed from parent through egg to poult. But essential as inheritable wildness is to survival, the hen must teach her poults even more tricks to get by in their sometimes hostile environment. It's amazing that after the ordeal of nesting and the responsibility of raising poults to maturity, the survival rate of hens is still greater than that of toms.

Travels for Food

As the poults grow larger, they begin to range farther and their diets constantly change according to the food available. Late in summer, broods continue to wander, mostly at the edge of forests and clearings where they feed on ripening grass and weed seeds, cultivated grains, fruits, berries and mushrooms. As leaves turn autumn colors, the flock ventures farther into the woods to eat the seeds and nuts of shrubs and trees such as oak, beech, cherry, ash, dogwood, witch hazel, ironwood and many others. If there's a poor mast crop, they add fat for the winter on less attractive fare such as the ever-present root tubers of spring beauty and other woodland flowers, on the cones of ground pine, seeds of grass and weeds, or on insect larvae from the forest duff.

The poults grow quickly. By November, young hens weigh 6-8 pounds and toms 10-13 pounds. After this initial spurt, growth slows. During the second year, hens reach their maximum weight of 9-10 pounds and gobblers 18-20 pounds. Turkey weights also vary by seasons. Surprisingly, birds weigh least in summer, the season of plenty. Even after a hard winter, gobblers are heaviest in spring when they accumulate a thick layer of gelatinous fat around their crops—called the breast sponge—which serves as a nutritional reserve when they are more intent on mating than feeding.

Surviving Winter

When winter comes, the birds' behavior changes. Young toms split from sisters and mothers and form bachelor flocks of their own or try to join small groups of older gobblers. A pecking order develops, and the dominant bird in both tom and hen flocks assumes command. The tendency for turkeys at this time to form flocks of usually less than 10 birds is undoubtedly necessary for them to survive on the limited food available. If these turkeys are artificially fed or natural food is abundant in certain areas, they sometimes form flocks of up to 50 birds.

During the fall, turkeys may travel over several thousand acres. A Mifflin County flock separated into two groups which in one week moved 50 miles apart. In contrast to this wide-ranging habit, accumulating snow of winter may restrict the birds' mobility to as little as 10 percent of the available range.

Turkeys also respond to a reduced food supply and opportunity to feed, cutting activity to conserve energy and body weight. They may shelter in evergreen roost trees for an entire week during a storm period. They will stay even longer if deep powder snow persists, because they can't walk in it. Experiments have shown that without any food at all, turkeys can live for two weeks, lose 40 percent of their body weight, then recover and even gain weight when restored to only half rations. But eventually, after a long pe-

HENS USUALLY select nesting sites in the forest. They prefer good cover such as laurel or the brushy top of a downed tree, but sometimes use more open places.





GOBBLERS strut for hens, left. Only the dominant males do the mating. Above, a hen and her brood parade across an unusually open area, as if showing off for photographer.

riod of inactivity on the roost, time and cold will take their toll of fat and tissue reserves until the birds fall from exhaustion.

Fortunately, winters this severe are the exception in Pennsylvania. When they do occur turkey losses are largely confined to the broad, high plateaus of northcentral Pennsylvania, where the climate is most severe. When snows begin to deepen, however, most turkeys move off the plateaus and mountaintops to spend the winter on the steep south-facing hillsides and in the valley bottoms. Here snow is not so deep and is less persistent, and spring seeps remain open.

The big birds also find shelter here from cold winds. During most of the year, turkeys roost in any hardwood tree where night overtakes them, but on cold winter nights they prefer the shelter of pines and hemlocks. Besides, the snow is shallower and usually firmer under the evergreens, so the birds can walk and feed.

Turkeys have been described as omnivorous opportunists that will eat nearly anything. Winter especially is no time to be picky. Turkeys will eat salamanders and algae from spring seeps, dry grass from a steep bank, ferns from the side of a rock and will even pick buds like a grouse from beech brush. Starvation is unlikely so long as they have firm footing in the snow, regardless of its depth. Surprisingly, they don't seem particularly interested in

grain provided in feeders except during the most severe weather and deepest snows. They prefer foraging on things like sensitive fern spore heads, which stick up out of the snow on two-foot-long stalks in seeps and swamps. This and other foods were once thought to be starvation diets, but analysis showed many were more nutritious than corn.

It's an inescapable fact that some turkeys die during severe winters in northern Pennsylvania. This is nature's way of culling the weak, which in the long run is good for the welfare of the turkey population. Besides, even if we wanted to prevent this, no practical way has yet been found to do so. Researchers studying this problem in McKean County found that some turkeys starved although corn-filled feeders were available nearby. Even if flocks in trouble can be located, they are reluctant to fly down into fluffy snow to feed on grain hauled to them. But somehow, enough survive the severest winters. They actually seem stimulated by their hardship to reproduce more of their kind the following spring.

Changing Habitat

We have learned about turkeys' habitat preferences by observing their habits year-round, but their specific requirements must also be known if the generations of hunters and naturalists that follow us are to continue enjoying the sight of this grand bird. As a result,

most of Pennsylvania's turkey research effort is now being directed toward habitat improvement to determine ways to produce more birds on a given area. This type of research is difficult; it must be carefully controlled and it takes years before sound management recommendations can be made.

The problem is compounded by the fact that the turkey's environment, like ours, is forever changing. Economics and human attitudes, which control the environment to a large extent, don't stay the same. Neither do forests. They grow up, and in doing so they pass through stages that have different effects on turkeys. How and when they are cut can be critical.

For example, it would usually be detrimental to turkeys if large areas of forest were cut for pulpwood while the trees were still too young to produce fruits and nuts, rather than allowing it to mature and be harvested for lumber. Long-term studies are underway in different forest types to determine which cutting practices are most beneficial to turkeys. The old selective logging method of cutting a mature tree here and there appears best for the moment; however, excessive deer browsing is suppressing the best species of seedlings and sometimes eliminating nearly all forest regeneration and shrub growth. Thus, over the long haul, clear-cutting in large blocks to reduce deer damage and allow sunlight to reach seedlings and sprouts may prove essential to encourage the best food-

Management Goals

- To establish self-sustaining flocks on all of the remaining 5,000 or more square miles of unoccupied habitat in Pennsylvania.
- To acquire and save as much habitat as possible.
- To increase carrying capacity of the habitat by food and cover developments.
- To maintain a maximum harvest without harm to the breeding stock.



BIOLOGIST Arnie Hayden and graduate student Dave Putnam measure vegetation density at turkey nesting site. Such data is helpful in the study of these great game birds.

producing tree and shrub species. After all, perpetuating the forest environment is really basic to all turkey management.

It would be impossible for the Game Commission, however, to change the composition of Pennsylvania's forests enough to make them more favorable for turkeys without the help of the forester and logger. Fortunately, the species of greatest commercial value for lumber and veneer are also favored by turkeys, so there is common ground between game managers and timber managers.

Research is also showing ways in which the turkey's forest home can be enhanced with land management practices such as food and cover plantings. But this type of habitat improvement is expensive; to be practical it must be proved essential to the welfare of the turkey population and be done on only a small portion of the turkey's habitat. It differs from forest management, which can involve nearly the entire year-round range and is a byproduct of a commercial operation that pays its own way through timber sales.

Studies in progress for several years have centered on improving food production in spring seeps, encouraging wild grapes and food-producing shrubs, planting evergreens for winter shelter and determining the need for

What Can Hunters Do To Help Turkeys?

1. Report illegal hunting. Greed may hold down turkey populations in some areas of Pennsylvania.
2. Support Game Commission policy to safeguard turkey populations in secondary and marginal ranges by having shorter fall seasons. Don't demand more than the resource can stand.
3. Support the Game Commission's program of trapping and transferring turkeys. This is the only sure way to start new flocks to expand turkey range and spread out hunter pressure. Think how this can help reduce the growing hunting pressure from too many "outsiders" that you have been complaining about.
4. Protect turkey habitat from *thoughtless* commercial exploitation and human encroachments. Turkey habitat needs zoning ordinances, too.
5. Encourage state and federal acquisition of forest and wildlife land. Key habitat needs to be saved for the future while it's still worth saving.
6. Support the Game Commission's antlerless deer harvest program. Without herd control, hungry deer can eliminate many of the best food-producing shrubs and young trees, downgrading habitat for turkeys and other wildlife as well as for the deer themselves.
7. Get involved in a food-producing tree and shrub planting program, especially where these foods are scarce on the turkey's northern winter range.

small forest clearings for good production of turkey poults. One study begun recently concerns increasing variety and food production of our forests by seeding and planting better food-producing trees and shrubs. Another involves establishing plantations of trees and shrubs on which fruit hangs all winter, to try to prevent starvation of turkeys in northern Pennsylvania.

Ways must also be found to protect these habitat improvements from hungry deer, which can literally wipe out an expensive shrub and tree planting. Upgrading deer management to allow more precise control of the herd in overbrowsed parts of counties is the most practical way to save and improve habitat for turkey and other forest game—as well as for deer.

To inventory our turkey populations, various tools have been utilized, from the simple snowshoe used for censusing turkeys in winter to the most sophisticated radio telemetry equipment, which can pinpoint a bird wearing a miniature transmitter in a backpack. This space-age hardware has uncovered secrets of this elusive bird which would have been nearly impossible to learn

otherwise, secrets we must know before we can hope to improve the turkey's standard of living. But sometimes these modern labor-saving devices and techniques just don't work the way they are supposed to. Radios have limitations in rugged mountains and during cold weather. Even helicopters, which seemed like a good way to count turkeys during the winter, were a disappointment. Turkeys head for the hemlocks when one of these noisy machines violates their quiet airspace, and even the rotor blast won't drive them from this evergreen cover. It's the same survival instinct to hide and stay put that we first saw when they were poults.

So researchers are back on primitive snowshoes, censusing turkeys from their tracks. One thing for sure, wading miles of soft snow each day on snowshoes is great for keeping in shape. And for censusing turkeys or determining their movements, no one yet has found a more accurate method.

Applying Management

We have already learned some things that can be done to improve the

turkey's habitat, and the Game Commission's land managers and foresters are starting to apply them to more than a million acres of Game Lands. Turkeys and other wildlife are also getting greater consideration by foresters managing the 2½ million acres of state and national forest lands in Pennsylvania. Thus, the future of the wild turkey may be relatively secure for our time. But what about the future? Will there be a wild turkey legacy for our children's children if our increasing human population continues to usurp the turkey's living space?

The Game Commission has already researched this possibility by observing turkeys stocked in several small range units near urban areas. Surprisingly, the results changed the stereotyped image of the turkey as a semi-wilderness species to one of greater tolerance for people and of smaller ranges than had been thought possible. Although this gives hope that the flocks may be saved for perpetuity, still there is a limit to encroachment by people; we must assure that the wild turkey's living space, the forest, is guarded from thoughtless exploitation.

This discovery of compatibility with man may also mean that Pennsylvania's turkey range could be expanded an additional 5,000 square miles by stocking habitat formerly considered marginal. Although it appears logical that tamer birds originating from game farms

should be better equipped to survive in forests used intensively by people, the opposite has proved true.

Stocking New Range

The conclusion that wildness is the key to the turkey's survival, whatever its environment, wasn't reached overnight. It took a 16-year period, during which the Game Commission thoroughly researched the relative merits of game farm and wild-trapped stock for establishing turkeys in unoccupied range. The transferred wild stock proved far superior. Thus, trapping turkeys from flocks too plentiful for their own health, and stocking these surplus birds in habitat where they were absent, eventually became the most effective and practical turkey management method of our time.

It was a difficult procedure at first, as the wary birds were reluctant to enter any of the numerous designs of cage traps. In the end, however, perseverance triumphed in the form of a net shot over the flocks by cannons. The secret all the while had been concealment. The net and cannons could be completely covered with leaves or other material natural to the surroundings. But if a trapper left one bit of detonating wire exposed to the sharp focus of a turkey's eye, it was just as ineffective as any other type trap.

Trapping during the winter was even tougher. Snow is good for camouflage,

TURKEYS CAN SURVIVE EVEN IN the cold mountainous regions of northern Pennsylvania if the snow isn't too deep and fluffy for them to walk in it to feed.





BIOLOGIST John Kriz uses snowshoes to census turkeys, right, and measures snow depth near a spring seep that's been cleared of over-topping tree growth, above.



but it may also freeze the net fast. A bed of hay helps prevent freezeups, but it stands out like a sore thumb on a snow background. The innovation of powerful rockets coupled to a nylon net packed parachute-style in an easily concealed box has solved most of the problems of trapping turkeys during the winter.

Only an average of 100 turkeys trapped annually are transferred to new range. Others, trapped on research areas in Tioga and Mifflin counties, are immediately released at the same place after being tagged with numbered and colored markers for future identification in various studies. A few are equipped with miniature radio transmitter backpacks.

Despite frustrations caused by uncooperative turkeys and the all-day waits in blinds, hot and bug-filled in summer and frigid in winter, trappers secretly hope that all the problems of trapping turkeys won't be solved. It's the difficulty and unpredictability that makes trapping our smartest bird almost as fascinating as hunting him.

Fall Hunting

As turkeys spread across the state, so has interest in hunting them. Fortunately, Pennsylvania has a large turkey population, numbering up to 100,000

birds in the best years, that can allow a fall hunt in which hens as well as toms are legal game. Besides the exhilarating experience of hunting this challenging species during autumn, many of us also are motivated by the thought of how traditional and how tasty a wild turkey would be for Thanksgiving.

Finding one of these 100,000 turkeys to grace your table, however, can be another matter. In the first place, they are spread over more than 15,000 square miles of range, seldom exceeding a density of 10 birds per square mile. Second, they bunch up in flocks which further reduces your chances of encountering one.

Turkeys do have one revealing trait: they scratch to expose their food. This can reveal their approximate location to an alert hunter. The best place to look for scratchings during the fall is where the food is, often up high on the mountain sides or tops, particularly on the points of ridges. Once you find fresh scratching, concentrate your hunting in that area. Chances are good the flock is still nearby.

The object in fall hunting is to scatter the flock, which is usually composed of hens and their full-grown young. Then the hunter takes advantage of their gregarious nature by calling one back to him. It's possible that another hunter has already scattered the birds, so it



DGP Harold Harshbarger, left, checks new cannon trap, a highly efficient unit. Above, Land Manager Ivan Dodd harrows forest clearing in preparation for planting.

pays to pause often to call while you are hunting for the flock. But always pick a good hiding spot before calling. It's a hopeless feeling to be caught in the open when a turkey comes running in.

Safety

Calling turkeys can be hazardous if you are not wearing some fluorescent orange at the same time. During the fall season, just knowing it is legal for other hunters to carry rifles can take away much of the pleasure in calling to turkeys. So consider wearing orange-background camouflage clothing if you still feel you must blend in somewhat with your background. If you are a rifle hunter, try hunting with a shotgun. You'll find it is much more fun when you have to call the turkeys in close.

Regardless of the type of gun used, too many turkeys are crippled by hunters shooting at ranges farther than they can reasonably expect to accurately place a bullet or enough shot in a vulnerable spot. The shotgunner should use medium-size shot, never larger than No. 4, to get a dense pattern where it counts—in the bird's head and neck. Larger shot may carry farther, but is more likely to wound turkeys, and possibly other hunters.

Don't try to sneak up on a calling "turkey." It could be another hunter who thinks you are a turkey, too. Above all, be absolutely sure that your target is a turkey before you shoot. Just think of the consequences—a lifetime of anguish and regret—if you shoot a fellow hunter. No turkey is worth that chance.

Spring Hunting

In May of 1968, a new sport—spring gobbler hunting—came to Pennsylvania. Spring is now the favored season for many hunters because it's that lovely time of the year when the old gobblers are responsive to imitations of the plaintive yelps of the hen. Relatively few old gobblers were harvested during the fall seasons and many of these were taken accidentally, rather than by the sporting method of calling. The spring season changed that.

It's a different ball game at this time of year. You must be where the turkeys are at the first light of day to listen for a blabbermouth gobbler who rarely said anything last fall. Once you pinpoint his location, try to sneak within 200 yards, but not too close, because his eyes are just as sharp now as in the fall. Find a good hiding place—not too brushy—where he can't see your position until he's within 40 yards. If he doesn't have a girlfriend, he may respond to your hen yelp. If a real hen is nearby, he may answer your call, but don't expect him to come. This is when it pays to know a few other calls, such as clucks and whines. And if all others fail, try the gobble. Sometimes he just can't stand the competition from another gobbler, any more than you can from another hunter.

During the spring season, just two hunters after the same gobbling bird can make a crowd. So avoid interference by hunting out-of-the-way



JERRY WUNZ and Bill Drake, above, show young toms taken in a snowy spring season, while Eric Wunz, right, approaches a good-size bird he took last fall. For many, turkeys are our state's greatest trophy.

places. They're worth searching out.

Don't worry about how good your call sounds, because turkeys don't. It takes a way-off-key note to spook a gobbler. But don't expect him to come running to a call as sometimes happens in the fall, no matter how good it sounds. His approach is slow and very deliberate, sometimes without a sound. If he doesn't gobble, it could be a hen, so be careful not to shoot the wrong kind. Hens' heads are gray colored, gobblers are red, white and blue—remember the all-American bird! And to be absolutely sure before you shoot, look for that beard that makes it legal.

Controlling Harvest

It's better for the flock if old gobblers like this are harvested. The hens have been mated and are laying eggs or nesting during our spring season. From this point on the gobblers are only excess baggage, competing with the hens and the coming generation for food and living space. In some states with limited turkey populations and range, a spring gobbler season is the only type of hunting that could be safely allowed.

Even in Pennsylvania, excessive mortality of hens may occur in some areas during a fall season, especially during periods of tracking snows when harvests and crippling loss are highest. This is why it is necessary to have shorter hunting seasons in more heavily hunted sections of the state where the range is accessible. In response, turkey populations have increased remarkably where residual wild stock persisted. To protect turkeys for the future, additional delineation of turkey harvest units along ecological zone boundaries is essential. Further reduction in season length may be required in secondary range if hunting pressure increases. And if we are to establish turkeys in third-class range near urban areas, it may be necessary to ban fall hunting there altogether and allow only spring hunting for gobblers.

Human attitudes, like the turkey's environment, are also subject to change. More and more people, besides hunters, are intrigued by turkeys and other wildlife, and their interests must be considered. But they should likewise remember that it was the hunter who single-handedly paid the way to save and perpetuate the wild turkey for the enjoyment of all our citizens. The eagle has never been hunted for sport, but he's endangered. That's something to think about.



Allegheny Spring

By Roy H. Brown

THERE'S A time in early April, after the onion snow has passed and the woods begin to display scattered points of green among the somber browns, when the urge to seek out spring overcomes me. It is then that I make my annual pilgrimage back to central Pennsylvania to walk along the slopes of the Allegheny Ridge.

Entering the forest along an overgrown logging road, I pass by a small spring-fed bog. Its muddy perimeter reveals the telltale tracks of a raccoon which had wandered through in search of last night's supper. Reflected in the shallow water, the rich green foliage of skunk cabbage has begun to unfold.

Along the first bench of the mountain, dense clusters of mayapple stand like small green parasols. Soon a waxy-white blossom will open at its forked stem. Next month the flower will be replaced by the small green fruit from which the mayapple takes its name.

Relaxing against the weathered gray trunk of a fallen tree, I sit inhaling the

heady aroma of moist humus soil. The air is filled with the soft enchanting music of the woods. A breeze from the valley climbs the mountainside, swaying the tree limbs above me. Off in a distant hollow, the drumming of a ruffed grouse joins an endless choir of songbirds. Honeybees buzz about in search of wildflowers for the sweet nectar they hold. A gray squirrel rustles the leaves as it forages for acorns missed last autumn.

Spring is wildflowers, a renewal of color and life. Golden trout lilies, cream-colored Dutchman's-breeches, and violets of blue and yellow push up through the leaves and bask in the warming sun. The flower which symbolizes the season most for me is the small delicate spring beauty. They spread beneath the towering trees like a rose-colored tapestry. Opening their five-petal blossoms to the bright light of morning, they reveal a beautiful pink striping. As the light begins to fade at dusk, they will close once again, retiring into the chilly evening.



Partly hidden in the mulch of the hardwood forest lies the shed antler of a white-tailed deer. During the past winter, a buck passed through here; perhaps his rack, almost ready to be dropped, became entangled in the low-hanging branches, breaking free one side of the stately crown. This is a rare find. Most fallen antlers are soon devoured by mice for their rich mineral content. This one has not escaped the little rodents' attention. Along the curved beam are incisor etchings and one tine has been completely gnawed away.

Camouflaged against the brown leafy carpet stand two morel mushrooms. These honeycomb-headed fungi are the most delicious of all the wild mushrooms, I believe. Cutting them off close to the earth, I tuck them carefully away in my pack. The day may yield more of

these elusive morels and tonight I'll dine on a gourmet's delight.

On the periphery of my vision, I notice a slight movement. From under an oak leaf slowly emerges the head of a box turtle. The scarlet eye immediately identifies it as a male. He has spent the winter several feet within the earth, safe below the frostline in the comatose state of hibernation. Now with the warming of spring, he comes forth into the fresh April air, the active part of his life cycle to begin once again.

Scanning the forest floor, I notice an unusual pattern on a nearby rock. I look at it more closely and discover the fossil of a shell. Contemplating the ancient impression, I am overwhelmed by the thought that once this old mountain was an ocean bottom. Then, perhaps 200 million years ago, great forces within the Earth began to slowly push and fold the land upward, building a great mountain range. As vast periods of time passed, weathering and erosion wore it down to the gently rolling ridges I sit upon today.

The Iroquois Indians, who traveled through these mountains much more recently but still in another age, believed that everything possessed a spirit. They called it Orenda. It was the essence that related all things to one another: the trees and flowers, the wind and streams, the creatures of the forest and man. It is this sense of oneness, of continuity and contentment, that draws me to this quiet spot in early spring. If we take the time and allow ourselves to be open to the infinite variety and enlightenment that nature provides, we can discover an enrichment and quality of life never before experienced.

But They All Have Heads

Some snakes, such as the anaconda, the boa constrictor and the python, have vestigial hind legs; by the same token, many lizards, such as the worm lizard, are legless.

Lizard Sandwiches Aren't No. 1

Sea turtles exceed all other reptiles in importance as a human food resource.



Recent survey shows State Game Lands get
“multiple use” but still are——

Mostly for Male Hunters

By Toni L. Williams

GAME NEWS Staff Writer

IN WHAT MONTH did people spend the most time at the Game Lands?

Do they spend more time there on weekdays or weekends?

What are the most popular activities on Game Lands?

Are males or females more likely to be “nature-watching” on State Game Lands? —fishing? —hiking?

Do people visit small game or big game Game Lands more often?

You’re not the only one curious about these questions—plus a lot more. Of course, there was more than curiosity motivating wildlifers to study Game Lands usage. Besides needing to know certain patterns for future planning, they needed to document some of the information that “everybody knows.” Having a feel for things is still important, but these days more emphasis is put on hard, cold facts—quantitative data. For instance, sportsmen have

been telling the public for years (especially on National Hunting and Fishing Day) that the land bought with their money is used by non-hunters, too, and for lots of other things besides hunting. Well, *you* know that and *I* know that—but when some guy says, “Prove it!”, where do you go for facts and figures? Earlier studies in Pennsylvania were pretty limited in scope and time span.

Besides, until you ask all the questions and study all the answers, you don’t know which results are going to be “obvious” and which will contain some surprises.

So the Game Commission cooperated with Shippensburg State College to gather and analyze information on the use of Game Lands—not just by hunters, and not just during peak seasons, but all use throughout the year. The study ran from May, 1976, to May, 1977.

Of course, State Game Lands differ quite a bit. Some are mountainous, heavily forested; others center around wetlands; still others are a mosaic of woodlots and reverting fields. Some lie close to large cities, others are out in the remotest boonies. It would be impossible, of course, to survey one of each. But by choosing at least two adjacent but differing State Game Lands, the study's designers hoped to get some variety into their results. And, sure enough, the results for the two were different, in both expected and unexpected ways.

State Game Land 169 in Cumberland County is basically small game and waterfowl territory, lying in a flat area along the Conodoguinet Creek. Corn, hay and grain are sharecropped. Small wooded patches interrupt fields; six small ponds lie near the creek.

State Game Land 235 in Franklin County, by contrast, is nearly three times as large and almost the entire mountainous tract is wooded. Two small trout streams run through the area. It's easier to drive to State Game Land 169, which lies nearer the turnpike and which has more improved roads leading to it.

Each month throughout the year, biology graduate student Craig Kern and his crew spent parts of six weekdays and four weekend days in the Game Lands passing out and retrieving survey forms. They usually left the forms on windshields, but they also tried to chat with the people who filled them out.

Four days really stand out for our hunters: the opening days of buck, small game, antlerless deer and spring turkey seasons. Since they expected more visitors on those days, the survey crew covered the Game Lands extra thoroughly on those days. You won't be too surprised to hear that on those special days, hunting was by far the most common activity on the Game Lands.

Incidentally, the Game Commission's statistical specialist, Bill Shope, pretty much designed the study; two Shippensburg State teachers, Dr. Gordon Kirkland (biology) and Carol Kirkland (economics and management) helped. They had to

GENERAL nature observation, including bird-watching, was extremely popular during spring months.



decide not only what questions to ask and how to ask them so that they got the best, least biased answers, but also how to set up the survey so that the responses could be analyzed accurately and easily by computer. That means they had to know about wildlife, recreation, human behavior and psychology, computer science, statistics, and so on.

Dr. Richard Wahl of Shippensburg coordinated the whole study and many other people were involved in typing, photography, graphic art, building and maintenance of survey boxes, Game Commission liaison, key punching, and a lot of other things.

The survey answers were analyzed from several angles: males vs. females, SGL 169 vs. SGL 235, weekends vs. weekdays, and variations between months, for example.

Maybe the easiest way to look at the survey responses is to ask some questions.

Who uses Game Lands?

An estimated 10,135 persons used State Game Land 235, and 14,840 used State Game Land 169 during the survey period. More men than women visited, by a ratio of 7:1. This particular survey concentrated on activities, not people; no information was requested on age, occupation, etc. (Some interesting things have emerged from studies that did look at these characteristics; I'll report on one such study soon.)

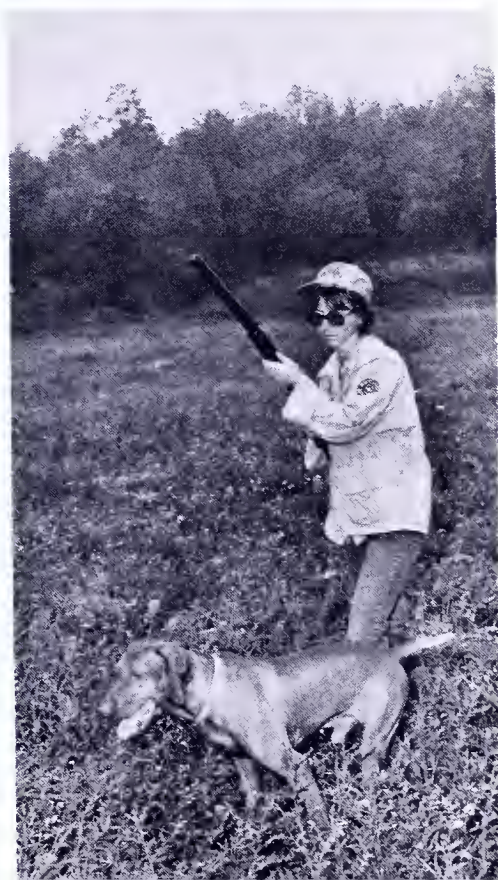


DISCUSSING survey routes with the help of aerial photos are (clockwise from left) Land Manager George Thomas, DGP Jim Beard, grad student Craig Kern, Dr. Richard Wahl, and Wildlife Biologist Bill Shope.



FARM-GAME Manager Gerald Magee finishes erecting one of the survey form collection boxes he built for the study.

DOGS AND hunters were both seen often on SGL 169. And this vizsla not only hunts but also runs in field trials; he's Fld. Ch. Renbrok's Drucker Schuh.



Where do they come from?

People varied considerably in how far they traveled to reach the Game Land, depending on time of year and what they had in mind for their visit. Not surprisingly, people drove farther to reach State Game Land 169 in small game season and SGL 235 in big game season.

Some surprises showed up, though: There was a real jump in distance traveled in November for State Game Land 169—but not for State Game Land 235, the “big game” Game Land. You might expect that the traditional Big Day of the Year, the buck opener on November 29, would have made up for the rest of the month; actually the average distance traveled to State Game Land 235 was slightly less in November than in either the preceding or following month.

At State Game Land 215 the longest distance travelled was on weekdays in July and weekends in August. Why then? And, at State Game Land 169, there were peaks in September and November (40 and 42 miles average), but in October, the visitors averaged only 10 miles.

When do they visit?

Over half those asked reported they visit the Game Lands fairly regularly. All but 10-20 percent had been to the areas at least once before.

November was the most popular month by far at both areas, with most activity taking place on weekends. But there was still more activity—and more visitors—on November weekdays than in any other month or on weekends at State Game Land 169. At State Game Land 235, November and December ran neck-and-neck for weekday visits; December at State Game Land 169 was a fairly slow month, while September was second in popularity there. These patterns make sense when you recall that SGL 235 is hunted primarily for big game (seasons in November and December), and 169 for small game (seasons in October, November and January) and migratory birds (doves in September, waterfowl in October). Apparently 169 isn't heavily hunted during the late small game season.

How long do they stay?

This too depends on time of year which partly determines what activities will take place.

For example, dog trials were held in September on State Game Land 169, and during that time people visited for much longer periods.

One interesting fact is that hunters spent longer outdoors than their “non-consuming” counterparts (except the field trialers). The average hunting trip lasted around 6 or 7 hours. Were camping allowed on Game Lands, the non-hunting visits might have been longer—but then, so might the hunting trips. Modern rifle and muzzleloader deer hunters spent the most time per trip, turkey hunters the least, with squirrel and grouse hunters and archers falling in between.

What do they do?

The nearby table lists the various activities and their popularity rankings by season (this combines data for weekdays and weekends, each season representing three monthly totals.)

Hunting was by far the most popular activity during fall months on both areas, though hiking, observing, and at State Game Land 235, bicycling, were other common fall activities. Hunting dropped to third place during winter on 169, though it stayed #1 on 235, and was in second place there only in spring. This is probably due to the good turkey habitat there.

Fishing overall was #2 on 169 but was way down in 7th place for 235, where it was an important use only in spring. Fall fishing was popular at 169 and ice skating pulled second place during winter months. The only winter activity besides hunting that drew more than a few participants at State Game Land 235 was “Other”—cross-country skiing, perhaps?—sledding?—making snow angels?

On the whole, quite a diversity of activities was pursued on these hunter-purchased lands. One thing which the study did not cover was whether or not those engaged in non-hunting activities hunted at other times or places. It would seem likely that, at least among those who lived more than a few miles

Popularity of Activities at SGL 169

Activity	Rank				Total
	S	F	W	Sp	
Hunting	3	1	3	5	1
Fishing	1	5	2	1	2
Observing	5	3	5	2	4
Combined	4	2	4	3	3
Other	3	7	6	4	7
Dog Training	2	6	6		6
Ice Skating		2	1		5
Hunting/Observing	12	4			8
Observing/Hiking	8	8	7	6	9
Hiking	9	7			11
Fishing/Hiking				7	14
Fishing/Observing	6	11		5	10
Archery		9			15
Horseback Riding				8	15
Berry Picking	10			9	13
Target Shooting	11	10			14
Fishing/Hunting		9		5	12
Bicycling	7	10			11
Photography	12				16
Geology	11				15

Popularity of Activities at SGL 235

Activity	Rank				Total
	S	F	W	Sp	
Hunting	3	1	1	2	1
Fishing	5	9		3	7
Observing	1	5	3	1	2
Combined	7	3	4	6	5
Other	2	5	2	5	3
Dog Training	8				10
Hunting/Observing	10	2	6		4
Observing/Hiking	6	7	5	4	6
Hiking	4	4		7	6
Fishing/Observing	9				11
Archery		8			12
Horseback Riding		6		9	8
Berry Picking	10				11
Target Shooting				8	9
Photography			7		14

Activities ranked by percentage of respondents participating in each season (summer, fall, winter, spring). Duplication of numbers indicates ranking tie. (Ex: "Hunting" and "other" tied for 3rd place in summer on SGL 169.)

from the Game Lands, hunters would be more likely than non-hunters to be aware of, and therefore to use, the Game Lands. (This might be one of the surprises, though.) I'd be interested in knowing how much the areas are used by non-hunters as opposed to hunters who are just doing something else at some other time. Most of the dog handlers I've talked to at field trials, for example, are hunters. Many hunters also fish, or ice skate, or ride horses, or do other things.

Many people, including hunters, may be unaware of the variety of activities which are permitted on the Game Lands. Some things are prohibited: motorboating, swimming, camping (except at a few specified shelters), picnicking outside of designated areas, picking of nuts and fruits other than berries and mushrooms. Some are regulated; for example, snowmobiling is permitted only on designated areas, roads and trails, from January 15 to April 15. But that still leaves plenty of leeway.

How did males and females differ in using Game Lands?

As expected, men hunted far more often than did women—but more women fished! Women also predominated over men in most other activities, except archery, hunting/observing, and the infrequently-mentioned categories of horseback riding and photography. On State Game Land 169, women were more active than men in dog training; on 235, where few people trained dogs anyway, the reverse was true.

An intriguing number of women—far more than men—engaged in "Other" as their chosen activity. The researchers suggest that many may have been reading, knitting, etc., while waiting for male companions.

Were Game Lands used more often on weekdays or weekends?

Considering the most common pattern of work schedules (weekends off), it's not surprising that, on the whole, Game Lands were more likely to be visited on weekends than weekdays. A couple of results were surprising,

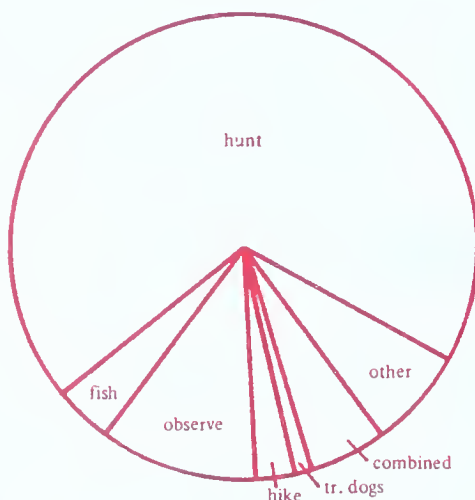


Male

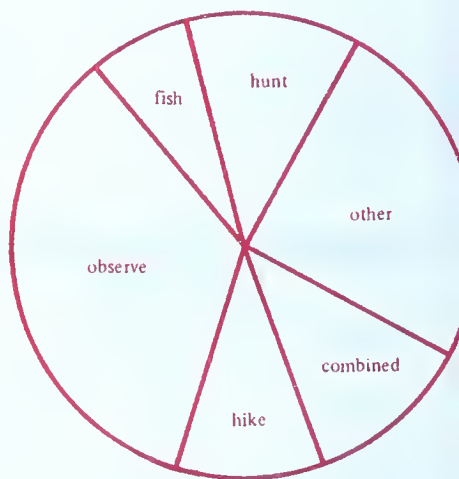


Female

SGL 169



Male



Female

SGL 235

DIFFERENCES between males' and females' use of the two Game Lands.

though. For one thing, there wasn't much difference between weekday and weekend use for most activities. For another, hunting activity on both Game Lands was more likely on weekdays than weekends. Well, that makes sense for the buck opener and antlerless seasons, both of which were weekdays. But why on 169, more a small game area? One factor might be that no game may be hunted on Sundays, which effectively eliminates half the weekend. The other weekday/weekend difference was for berry picking; the few berry

pickers who turned 'up were more likely to be there on weekdays, according to the data.

So it turns out that State Game Lands are indeed used for many types of recreation besides hunting. But there is still a lot of unfulfilled potential outside of hunting seasons; the most frequent user by far of both the Game Lands studied was the male hunter. We *want* him to continue using the areas—but there's also plenty of opportunity there for his family and friends.

Some Thoughts On Decoys

By Alan R. Mulak

The use of duck decoys in southeastern Pennsylvania is not widespread. Most gunners prefer to jump-, float- or pass-shoot ducks and geese. There are, however, situations where duck decoys are extremely effective. The "how-to" and "when-to" of decoying requires a little thought. Since this is not an area of "big" water (such as the Chesapeake Bay), the rules of the game are different from most of the information available on the subject.

First of all, a huge rig of 75-80 decoys is neither necessary nor practical in most places. (The only exception is when decoying geese in a cut cornfield; here, the more decoys, the greater your chances of success.) Second, local species are well educated to the ways of the waterfowler, so your decoys must be very good. Finally, (and probably most important) the wind, waves, and current have very little effect on small pond or stream decoys; therefore, some animation must be added to your rig.

Taking these rules and designing your own decoys is almost a necessity, for in my opinion most commercial decoys will not do the trick. Start with the species: mallards, mallards and then mallards in that order. All other puddle ducks (and some diving ducks) will decoy to mallards. Also, about 90 percent of the local ducks are mallards. I use a five drake-two hen ratio in my rig and paint them brightly.

Next, consider the shape. The usual



A. SIDE VIEW



B. TOP VIEW



C. SIDE VIEW



D. SIDE VIEW



E. SIDE VIEW



F. SIDE VIEW

SKETCHES AT RIGHT show a normal assortment of decoy views which usually give good results for Pennsylvania duck hunters. A—no neck, relaxed and resting, 40%-50%; B—medium neck, various angles, 10%-20%; C—long outstretched neck, 10%; D—sleepers, head tucked in, 10%; E—feeders, head outstretched, 10%; F—tippers, tail up, 10%.

shape is a straight ahead, medium neck, which is fine for one or two decoys but not for the whole rig. Instead, vary the head positions to make your rig more natural looking by roughly using the formula shown on the previous page.

How many? For a small farm pond, 3 or 4; for a river bend, 5 or 6; for a lake, 15 will do nicely. In the case of a lake or even a river, a pair of geese to be used as confidence decoys can really add to the effectiveness of your rig.

All of the before-mentioned design features are peanuts compared to the next one—surface disturbance. The most beautiful rig in the world looks un-lifelike just sitting on a calm pond. Let's face it, your decoys are supposed to represent a safe place for ducks to drop in to. Have you ever observed ducks on a pond? They rarely sit still on the water. Usually, they're swimming about, feeding, preening or chasing females. I believe it's the surface disturbance, flashing reflected light skyward, that first catches the attention of passing ducks.

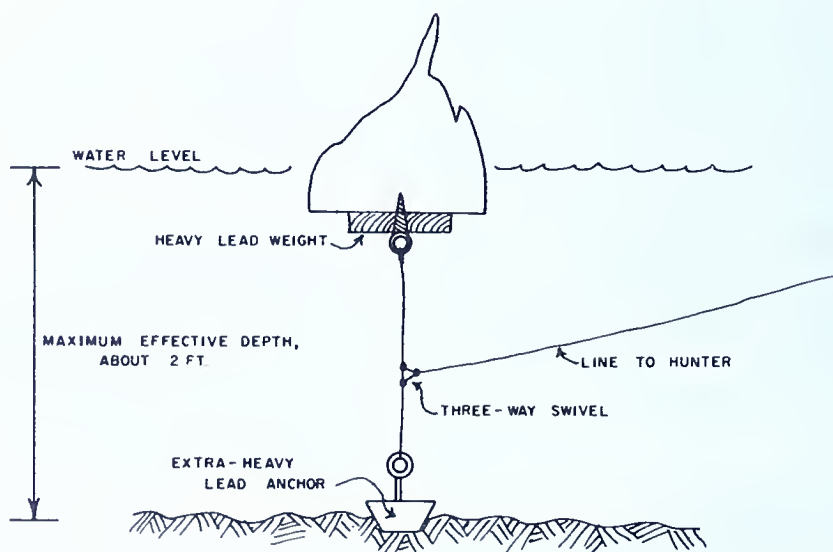
There are various methods of animating your rig. A simple way is to sit by the water's edge and every few

minutes kick your feet for a few seconds, causing ripples that resemble those made by a pair of feeding ducks. The most effective way I've found is the "bobbing tail trick." This seems to cause a maximum amount of disturbance with the greatest degree of realism. Basically, you need a shallow stream or pond, one tipper decoy and a length of decoy cord. The nearby sketch shows how the rig works.

In placing your blocks, forget the "fishhook" and "modified vee" patterns. These are for big water rigs. Go to the local park and observe how the ducks gather—a small bunch here, a few there, etc. This is the way you'll want to set your blocks. Next, check the wind direction. Keep in mind, waterfowl always land into the wind. Don't let your decoys touch each other and keep icicles off the bills.

How do you build your own decoys? I suggest *Decoys Simplified* by Paul Casson (Freshet Press, Rockville Center, N.Y., 1972). One note on building your own blocks: take pride in your work. Remember, decoy making is one of the few original North American art forms.

Good luck and good shooting.



Tips on Pix

By Tom Fegely



WITHIN THE PAST ten years I've had the opportunity to present my slide program, "Whitetail Country," to about 10,000 people in sportsmen's clubs, women's organizations, garden groups, Lions, Ser-tomans, Rotary clubs, and to teachers, kids, and others. It has given me the opportunity to combine my nature photography with the life story of the white-tailed deer and the plants and other wild creatures that share its domain.

Obviously, any story about the whitetail must include man—and he, too, is an integral part of the presenta-

tion. A small percentage of the shots are of a hunter (or hunters) with their big and small game trophies. Surprisingly, I've had very few (I can only remember two, actually) adverse comments about the "dead animal" photos.

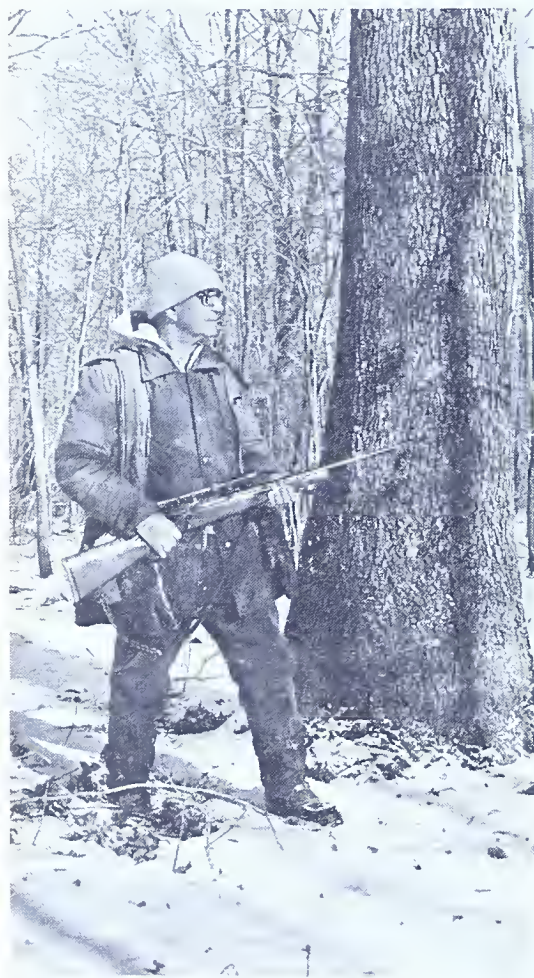
That's because I've made a special effort to show the hunter without the typical "blood 'n guts" pose so often seen in everything from national publications to someone's photos of last year's deer hunt. And no less important, the hunter and/or his game is always arranged so as to aesthetically benefit both.

Whether it's your desire to influence

someone else's thoughts about hunting and shooting by showing your slides or movies, or you simply want to add a touch of professionalism to your hunting photos, here are a few tips that I try to keep in mind when "shooting my friends."

- The prime rule for getting more interesting shots than the deer-hanging-on-post or rabbits-on-front-porch photos is to carry your camera with you. There's always a bit of extra space in the game bag or a side pocket to "pack a camera" on the hunt. By doing this the natural touch of "on location" shots will be evident.

- Make a special attempt to get candid shots of your hunting buddies. That is, shoot their portraits when



A PHOTO such as this one of Ray Greenbaum, Lake Harmony, is interesting because it shows a hunter actually on deer stand—not simply posing with his buck after the hunt is over. Such pix require carrying your camera with you while hunting, but they're worth it.

they're completely off guard. This might include a deer drive, checking out a clump of weeds for a ringneck, resting between hunts, or any of the other activities that occur throughout a day afield.

- Photographs with dead game can be enlivened by remembering that it is the *hunter* that is enjoying the day afield, not the pheasant or the deer. Whether hoisting a full bag of squirrels or kneeling next to a buck, get your subject to smile or, at the very least, look like he or she is enjoying the situation.

- Take time to move a hanging or lying deer so that its body cavity is concealed (assuming it has been field-dressed). Taking a few moments to wash off obvious blood will make your trophy photos less offensive to sensitive hunters or non-hunters. And tuck in the deer's tongue! If a piece of game is badly damaged, don't use it in the photo. Many times the best photos are those with the hunter and only one of his morning's trophies rather than a full spread of squirrels or rabbits.

- If you have the equipment, the use of telephoto lenses for people pictures is a plus. This enables the photographer to get a close-up without making the subject feel conspicuous. It also permits taking shots of fellow gunners that, perhaps, do not even know they are the subject of a photograph.

- A wide-angle lens can also add unusual perspectives to a portrait. One I personally like is to get a low-profile shot with the deer or gamebird in the foreground and the hunter a bit farther back. In some cases a small animal will actually appear much larger than the hunter because of the way the shot is taken. It's important to use small lens openings on photos such as this to get a good depth of focus.

- Study the image in your viewfinder before snapping the shutter. A birch tree growing out of your buddy's head or a twig exiting from his ear may look funny and get a laugh later on—but it's not one he'll hang in his den. Background is extremely important in a photo. If the shot can't be taken in natural surroundings, at the very least make sure that a house or your



neighbor's garbage cans aren't in the picture. If the photo must be taken in your backyard for some reason, you might consider waiting till after dark and using a flash. This often highlights the hunter and provides a black background. (But remember eye-shine; this is caused by light bouncing off a reflective layer at the back of the eye. Avoid this annoying problem by turning the animal's head so that its eyes aren't pointed directly toward the camera.

- Good outdoor portraits don't have to include game. A writer-friend of mine, a good photographer himself, is most proud of a color shot that I took of him looking through a pair of binoculars while on a deer hunting trip.

- There's not a more natural shot than that of man and dog. Whether it be one that is posed or a shot of the hunter and his best friend working, it's bound to be a winner.

- You may also want to try a mood shot or two. Your trophy buck with your rifle across the rack, the spring gobbler hanging across a friend's shoulders as he makes his way out of the woods (you won't even see his face here), a colorful duck or grouse against an orange vest with a few spent shells and the gun nearby, or a brace of squirrels hanging by a leather strap with your 22 propped against a tree—all bring back pleasant memories.



SHOTS AT CAMP or in backyard can be effective at night when flash is used, for they eliminate most background details. When photographing dead animals, make sure body cavity doesn't show. Hunter should be in hunting clothes, as here, not slacks or whatever. Unusual situations, such as hunter reflected in water, above, heighten interest in what might have been a nice but somewhat ordinary photo.

Each year when I arrive at deer camp I know that my hunting friends are looking forward to seeing my slides of the previous year's hunt. Eight-by-ten glossies, in both color and black-and-white, are regular gifts to friends or new acquaintances who may have helped me drag a deer from the woods or allowed me to photograph their trophy.

In a year's time I run upwards of five or six dozen people pictures in my newspaper columns and half again that many in other publications.

I have a special reason for trying to add that special something to shots of hunting friends. You will too when you see the smile on a partner's face—both when you're "shooting" him and when you give him a finished print.



4

Too many beavers

. . . . can cause problems in some areas of our state, yet other places could support more beavers than they have. Parker Dam State Park in Clearfield County has too many. Solution? Live-trap some of them and move them to where they're more welcome. The Game Commission, Bureau of State Parks and the wildlife technology department of Penn State's DuBois campus cooperated in the project, which at first was unsuccessful. On the charmed third try, though, they trapped a 29-pound male in a water set across from the park's swimming area. Later the same week, they captured and released a pair of large kits. Wildlife students later found the transplanted trio building a lodge in the stripmine pond on SGL 77 where they'd been released. A careful harvest will ensure that, in addition to providing trapping opportunities, the beavers and their offspring will help the Commission to maintain waterfowl habitat there.

THE FIRST STEP is to set the trap (1). Cooperation helps, as (from left) Park Ranger Dave Gelnett, wildlife instructor Lee Tibbs and DGP Jerry Zeidler find out. Then Zeidler cuts fresh aspen for bait (2); finally, he positions sticks (3) to guide beaver into trap.



2



5

SUCCESS! RANGER Gelnett finds large trap plus wet beaver to be a hefty load (4). Once it's landed, the beaver is *carefully* extracted by Tibbs and Zeidler (5) and, as wildlife students watch, Tibbs demonstrates sexing, weighing and measuring (6). Then it's off to SGL 77 where this and two younger beavers made themselves at home in a stripmine pond.



6

Photos by
Tim Irwin



FIELD NOTES



Just Plain Sick

I've just had the misfortune of reading about one of the worst game law violations that I know of in my 20 years as a game protector. Fortunately, the offender was caught and prosecuted. He went within 65 yards of a home and, finding a new playhouse built by the homeowner for his children, proceeded to shoot into it three times with his shotgun from about 35 feet away. The three small children in the playhouse all suffered injuries. How stupid can a man get?—LEA Jim Moyle, Alexandria.



Third Chance?

ERIE COUNTY—While Deputy Richard Loll was patrolling in Franklin Township during antlerless season, he saw a hunter leaving the woods carrying a set of deer antlers. When questioned, the hunter said he had seen a nice buck and was bemoaning his fate at not seeing it during buck season. Just then the buck spooked, ran under a tree, caught his antlers on a branch and pulled them off his head. When the hunter saw that it was now a legal deer, he shot at it—and missed. At least he got the antlers.—DGP Russ Meyer, Fairview.

Don't Forget

LANCASTER COUNTY—Now that most hunting seasons are closed and sportsmen are thinking of next fall's big buck, I would like to ask them to give some thought to something else. If you have a child that will be of hunting age by the 1978 season, please don't wait until October or November to try to find a hunter education class for him. By then most classes will be over. I had at least 30 phone calls last November, asking if I could give a special class for a child whose parents forgot he had to attend one. During hunting season, few game protectors have time to conduct classes, let alone a class for one child. Start checking the newspapers in August for classes and get your child to an early one; if you wait till the last minute, the classes may be full. Don't let your son or daughter be left out after waiting for twelve years to share a hunt with you.—DGP John A. Shutter, Jr., Lancaster.

Duck Walk

SCHUYLKILL COUNTY—One night after a winter storm I was driving my wife to Pottsville to do some shopping. Along Route 209 just outside of Tamaqua, my headlights shone on an odd-looking bird with a comical walk. I blinded it with my flashlight and was able to capture it. It turned out to be a female red-breasted merganser. This was the first time I had ever seen any merganser on dry land, and it looked very much out of place. The merganser is a diving duck that feeds on fish, and its legs are located far back on its body. In order to keep from falling on its bill, this one had to keep its body, long neck and bill almost perpendicular to the ground. I released it on the Little Schuylkill River the next day.—DGP Stephen L. Opet, Tamaqua.

Getting Money's Worth

LYCOMING COUNTY—I wish I had a dollar for every man-hour of recreation spent on State Game Lands 252 in Lycoming and Union Counties. This is, no doubt, one of the hardest-used Game Lands in the state. Birdwatching, hiking, snowmobiling, photography, fishing, horseback riding and school groups are all quite common on this piece of land, to say nothing of the hunting and the thousands of pieces of game harvested there, primarily deer, waterfowl, rabbits, squirrels, doves, and pheasants. To top all this, sled dog races were held there this winter.—DGP Bob Fala, Linden.

Icy Exodus

BLAIR COUNTY—My headquarters had received several calls that some ducks were frozen into the ice on Lake-mont Park. Deputy Dale Stehley went to the rescue with a canoe, and everything went according to plan until he approached the ducks. They quickly decided they had enough and flew off. So much for Operation Ice-Breaker. It wasn't what it was quacked up to be.—DGP Larry Harshaw, Hollidaysburg.

Plea

YORK COUNTY—If you're looking for an amusing story this month, I cannot supply one. If you're interested in your hunting, someone in York County could and should supply me with the name of the individual who shot the quarterhorse on the Sueck farm. This horse was his daughters' 4H project and the *SLOB* who shot it closed another 180 acres of hunting ground to us. Do your part by telling me who shot, and I'll do mine. The Hopewell Fish and Game Club of Stewartstown and the Jefferson Sportsmen's Club of Jefferson are each offering a \$100 reward for information leading to the arrest and conviction of the person who did the shooting.—DGP Robert L. Yeakel, Red Lion.



Was He Greased?

I knew my field training assignments would cover a wide variety of law enforcement situations, public relations, and the rest of a game protector's duties. I never thought, however, that I would assist DGP Dan Jenkins pursue a piglet through a dense forest in Cambria County with a flashlight in the middle of the night.—Trainee R. C. Snouffer.

There's a Reason!

While on field assignment with DGP Carl Jarrett in Fulton County, I became aware—the hard way—of the reasoning behind the law forbidding loaded firearms in vehicles. We had set up a road check at a remote intersection. I stopped a pickup truck with a man and his wife riding in it. As I told the driver we were checking for illegal deer and/or loaded guns, I noticed a bolt action rifle sitting muzzle up between him and his wife. When asked, the driver stated the rifle wasn't loaded. I asked him to open the bolt. Reaching for the bolt, he must have hit the trigger, because the rifle discharged, sending a bullet through the seat and out the truck's back window. Luckily no one was injured. I learned a valuable lesson that day and will never forget to handle every firearm as if it were loaded. If this Field Note can avert one accident, I'll feel I've gotten my point across.—Trainee Doug Killough.

Over Popular?

While doing my reports at the headquarters building on SGL 39, I heard five shots from muzzleloader hunters. Looks like a bumper year for this type of hunting.—LM Duane W. Gross, Titusville.

Thanks from All

On behalf of the 17th Class, I would like to thank the families of the game protectors who put up with trainees living in their homes during the past hunting season. The families I stayed with went out of their way to make me feel at home. This made what I had feared would be an uncomfortable situation very enjoyable. Our hats are off to all the families involved.—Trainee John Roller.



Where There's A Will

ARMSTRONG COUNTY—On the first day of buck season I met a hunter who was really concerned about obeying the law. He had bagged a nice buck, but found he'd forgotten a pencil to fill out the tag. He was not aware he probably could write with the tip of a bullet, so he dipped a weed stem in deer blood and completed one of the most legible tags I saw that whole day! From now on, it's going to be awfully hard for me to accept the run-of-the-mill excuses that I hear for not properly tagging a deer.—DGP Al Scott, Rural Valley.

Christmas Carols?

JEFFERSON COUNTY—The introduction of the Code-a-phone answering service has greatly increased the efficiency of field officers, especially those who did not have anyone at home during the day to take calls. But as with all new equipment, its full potential will not be realized for some time. For example, when returning from night patrol it often supplies me with a type of comedy never to be found on TV. One night's calls included five "AHHHHH's!!," two "Oh! #%?#s," one "Hey, you have a dead deer out here," and two rather nicely sung Christmas carols.—DGP Adam O'Hara, Brookville.

Just Wildlife

WESTMORELAND COUNTY—The problem of predation by free-roaming dogs and cats is growing, yet each time I approach an offending pet's owner, I get the same answer: "We live in the country so our animals can run free, what can they hurt?"—DGP Timothy C. Flanagan, Mt. Pleasant.

Time to Wake Up

Wake up, violators, law-enforcement officers are not the only ones concerned with your activities. Anti-gun and anti-hunting factions are paying close attention and are taking every opportunity to use your stupidity against the hunting and shooting fraternity. Since numerous appeals to your common sense have fallen on deaf ears, maybe you will be the first to hear the door close as your firearms are thrown into the melting pot for recycling.—LM Dave Brown, Westfield.

Needs to be Said

BUTLER COUNTY—Just a special thanks to a dedicated, hard-working, special bunch of fellows, the deputies of District 1-10-2, and to all the sportsmen who cared enough about their sport to get involved in 1977.—DGP Larry Heade, Butler.



Sometimes Nobody Wins

NORTHUMBERLAND COUNTY—

Recently, I got a call that three dogs were chewing on a bear hide in a rural area of the county. Bear sightings had been reported near there, so I immediately investigated. As I attempted to chase the dogs away, a woman came rushing out of a nearby house, screaming. At first I thought she was directing her anger at me, but when she ran by and grabbed the "bear hide" I breathed a sigh of relief. I explained why I was there, and through her tears and sobs, she said she wished it was a bear hide—instead of her mink coat that she had hung on the clothes line to air out for the holidays! And, after I refused to shoot the dogs, she threw several snowballs at me and *not one* at the dogs!—DGP J. M. Kazakavage, Sunbury.

Boo, Hiss!

POTTER COUNTY—

Every year someone has his deer stolen. Under the Criminal Code this is larceny of movable property and is usually handled through the local police. Bud Button, a local resident, told me that somebody had stolen half of the deer he had hanging at camp. He had found the footprints and the thief was a large bear. When I asked Bud if he had skinned the deer and he replied in the affirmative, I said, "Well, Bud, what do you expect—it was *bare* meat!"—DGP Ron Clouser, Galeton.

Vanishing?

BRADFORD COUNTY—Where have all the hunters gone? It takes little to keep some hunters at home nowadays. Even with a beautiful, fresh snow, moderate temperatures and sunshine, I had to look hard to find hunters after the second day. Each year it gets worse. When I was a young buck, I hunted from dawn to dark, but I guess things are too rough now. We can't afford to give up a day's work. It's a shame to turn our backs on the great outdoors, to miss teaching our children what we once valued so much before the dollar took its place! Another American tradition is falling by the wayside.—DGP Edward Gallew, Wyalusing.



Orange is Cheaper

CHESTER COUNTY—During the past season I checked a hunter coming out of a cornfield. After talking a moment, he declared that hunting just wasn't safe any more and proudly tore open his jacket to display his means of protecting himself from the "nuts," as he referred to them: a bulletproof vest. He stated it cost him \$125 but was worth every cent of it. As the sport wandered off, I couldn't help noting how he was dressed—Mr. Safety was wearing brown from head to toe. Probably never heard of fluorescent orange.—DGP Edward T. Clark, Cochranville.



Camel-flaged

I just read that, in an effort to curb motor vehicle-camel accidents, Lebanese Police have asked herders to use fluorescent material on their camels' humps. Wonder why some hunters feel their life is less valuable than that of a camel?—CIA John Badger, Ligonier.

For Sale or Trade

The following was clipped out of *Reader's Digest*—"From the East Syracuse, N.Y., *Pennysaver*: Husband for sale, cheap. Comes complete with hunting and fishing equipment, 1 pair jeans, 2 shirts, boots, black Labrador retriever and 50 lbs. venison. Pretty good guy, but not home much from October to December and April to October. Will consider trade."—LM Jim Ramsey, Falls Creek.

They Know!

FOREST COUNTY—Every year we get complaints on the possibility of overshooting our deer population during antlerless season. Well, I can put your mind at ease about Forest County. The day after the season closed, during routine patrol through my district, I counted 211 deer. In one field alone, I counted 54 deer milling around for food. They must have a copy of the seasons and bag limits . . . —DGP Alfred N. Pedder, Marienville.

A Matter of Time?

Since game protectors and land managers have been listed in the Yellow Pages, it has helped the public on many occasions. Just the other day a man called to ask about the condition of the local cemetery. My wife informed him that I wasn't managing that type of land yet.—LM Chester J. Harris, Athens.

Little Green Men?

On the second Saturday of buck season, DGP Jack Weaver and I were checking hunters in the Armenia Mountain area. A bit later Deputy Dave Darby went through the area doing the same. One group of hunters told him they had just been checked. "By whom?" Deputy Darby asked. "By two little guys in little green suits and a little green Jeep," they replied.—Trainee Jim Donatelli.

Let Me Tell You!

ADAMS COUNTY—Nearly everyone asks, "What do you do now that hunting season is over?" If they knew of all the prosecution reports, citations to be filed, hearings to be conducted, appeals to be heard, files to be brought up to date, monthly reports to be typed, seedling orders to be taken, programs to be presented, damage complaints to be answered . . . it can go on and on. If the public understood even about all the paper work we have to do, I don't think they would ask that question.—DGP Gary Becker, Aspers.

It Was This Way—

WASHINGTON COUNTY—We've had many car-deer accidents but recently we had one that I thought was unusual. Four deer jumped from a high bank onto a rooftop of a building, then one doe decided to jump off the roof into a parking lot. She jumped right on top of a station wagon and did quite a bit of damage. I can just see the owner explaining this to his insurance agent.—DGP John G. Sickenberger, Houston.

Hunters Take 74,879 Bucks

By Ted Godshall

PENNSYLVANIA'S deer hunters recorded their second largest buck harvest in history and the third largest total whitetail harvest of all time during the 1977-78 seasons, according to reports filed with the Game Commission.

Report cards mailed in by successful hunters indicate 74,879 antlered deer were taken, while another 71,199 hunters in the state reported tagging antlerless deer. The total reported harvest of whitetails was 146,078.

The 1976-77 figures were 64,084 antlered deer and 57,949 antlerless, for a total harvest of 122,033. Last year's buck harvest had been the sixth largest up to that point.

The all-time record reported buck harvest in Pennsylvania took place in 1967, when 78,268 hunters reported tagging whitetails with antlers. Prior to the past seasons, the second largest harvest occurred in 1975, when 71,986 buck hunters reported to the Game Commission that they had been successful.

This past seasons' total deer harvest was exceeded only in 1940, when 186,575 deer were taken (145,580 of that number were antlerless deer), and in 1938, when 171,662 antlerless deer were harvested (there was no open buck season in 1938). In the late 1930s, the deer population in the state totaled about one million. Prior to the last hunting seasons, there were about 650,000 deer in Pennsylvania.



DONALD NOVAK of Sharon has taken a number of nice bucks in Pennsylvania, including this 8-point bagged near Wilcox, Elk County, during the most recent season.

The 71,199 antlerless deer reported taken in the most recent seasons represent the fifth largest antlerless whitetail harvest on record. In addition to the huge 1938 and 1940 harvests, hunters had big years on antlerless deer in 1949, when 84,121 were reported taken, and in 1968, when 79,836 were tagged.

Of the fifteen largest buck harvests in the state's history, fourteen have occurred in the last fourteen years. Reported deer harvests have exceeded the 100,000 level for seven consecutive years and in eleven of the last twelve years.

Potter County, which traditionally produces just about the largest deer harvests recorded in the state, again led all counties in buck, antlerless and total harvests during the 1977-78 seasons. Hunters reported taking 3,450 antlered deer in Potter and another 3,425 antlerless whitetails, for a total of 6,875 deer from "God's Country."

During the 1976-77 seasons, Potter also led all other counties in all categories of deer harvest, with 2,603 antlered deer and another 3,401 antler-



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less animals, for a total harvest last year of 6,004 whitetails.

Following Potter in antlered deer harvest in 1977-78 were Tioga, 2,727; Bradford, 2,582; Lycoming, 2,580; Clearfield, 2,553. Other leading antlerless harvest counties were Clearfield with 2,745; Bradford, 2,576; McKean, 2,386; and Tioga, 2,361. Counties other than Potter leading in total 1977-78 harvest were Clearfield, 5,298; Bradford, 5,158; Tioga, 5,088; Lycoming, 4,966. The buck total included 60,344 with three or more points and 14,535 spikes, while the antlerless figure included 57,223 females and 13,976 males.

Resident hunters reported taking 66,127 bucks and 70,410 antlerless deer, while nonresidents reported taking 8,752 bucks and 789 antlerless whitetails. The nonresident antlerless

harvest included 635 tagged by archers and 133 reported by muzzleloader hunters.

The Game Commission emphasizes that all figures are actual counts of report cards filed by hunters. It is possible that the rate of reporting improved in 1977-78, and that the increase is reflected in the higher harvest figures.

INVITATION TO COUNT DEER HARVEST CARDS

Every year deer harvest figures compiled by the Game Commission are questioned, but so far no one who has looked at the report cards mailed in by hunters has challenged the accuracy of the count.

Again this year, the Game Commission extends an open invitation to any interested individual, group or groups to come to commission headquarters in Harrisburg to examine and/or count the report cards filed by hunters.

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State of the Nation

By Toni Williams

THE 1978 "Environmental Quality (EQ) Index" compiled by the National Wildlife Federation shows a continuing decline in all but two areas. The rate of decline, however, has decelerated for several areas. Forests have improved, and air quality is the same as last year—the best since the Index was begun in 1969.

The EQ Index, published annually in *National Wildlife*, the NWF magazine, is based on the collective thinking of the editors and the NWF staff after consultation with government experts, private specialists and academic researchers. It is accepted by many agencies and conservation organizations.

The numerical '78 Index is 343, down three points from 1977, and a depressing 51 points from 1969. (A numerical value up to 100 points is assigned to each of seven areas; these are totaled for the EQ Index.)

A summary of NWF's analysis of each area (with a few comments) follows:

WILDLIFE

Down. Gains in some areas, losses in others. For example, though Congress passed some good environmental laws, they weakened or tried to dilute others, including the Endangered Species Act. About 600,000 acres of valuable wetlands were drained, but some were also saved from that fate. More money went to federal agencies with wildlife responsibilities, but an appalling amount funded pork-barrel dams and other habitat-damaging projects.

A new stripmining law promises restoration of millions of acres of wildlife habitat formerly doomed to lingering sterility, but the continuing energy crisis caused fear among environmentalists that hard-earned public concern for wildlife might take a back seat.

APRIL 1978



FORESTERS INSPECT a young tulip poplar on tree farm near Evensburg. Large trees shown here will soon be harvested. Some economists predict a timber famine by 2020 if current use rates continue.

Biggest need: Broader political support. Without it, land-use decisions will continue to go against wildlife (see Feb. 1977 GAME NEWS editorial).

AIR

Same. Four air pollutants, including the worst offenders, are down as a result of the Clean Air Act. But the goal of healthful air across the country by 1977 hasn't been reached. Auto makers were given another postponement for meeting standards—though car emissions still cause 4000 deaths and four million sick days yearly.



WETLANDS ARE invaluable to many species of wildlife, yet 600,000 acres were drained last year and numerous other habitat-damaging projects were carried out.

Poisonous "acid rain" (see "The Last Green Leaf," May 1977 *GAME NEWS*) from sulfur oxides and other air pollutants has increased since 1933 from 4 to 90 percent in the high Adirondack lakes which are barren of fish. Increasing use of coal may exacerbate this widespread problem.

Congress said power plants don't have to meet deadlines for cleanup until 1982. And they're allowing pollution in areas previously "clean," in violation of the non-degradation provisions of the Clean Air Act. But an innovative policy allows new industries to pollute the air in already-polluted areas only if they reduce damage elsewhere.

Biggest Need: Major crackdown on auto emissions and polluting industries and power plants.

MINERALS

Down. Imports climbed again, gasoline was used at record high rates, and resource recovery from trash made little progress. However, there were encouraging signs that individuals and industries are becoming more energy-conscious and trying to waste less—and thereby to save money.

A stripmining bill was signed by

President Carter this year, though a national "bottle bill" didn't get far. Freight rates continue to strongly favor new materials, so it remains cheaper to bury or incinerate waste than to reuse it.

An increased share of the energy research budget went to study alternative sources (solar, geothermal, wind, etc.) but more is still needed.

Biggest Needs: Bigger budget for alternative energy research and development, incentives to conserve and recover resources.

WATER

Down. Only about a third of municipalities met 1977 pollution control deadlines; many still dump partly treated sewage into rivers and lakes. Non-point pollution (primarily runoff from urban and agricultural areas) continues to be a headache because it's so difficult to pinpoint and control. Drought in the West not only caused immediate problems, but put pressure on environmentalists who support conservation rather than damming, diverting, and tapping to fill water needs.

On the positive side, industry largely met cleanup deadlines which the cities missed, and foot-draggers like U.S. Steel increasingly curbed their profligate pollution and agreed to help fund cleanup efforts. Ocean dumping of industrial waste declined again. Some polluted rivers and lakes are being cleaned up. The nation's first standards for drinking water went into effect.

Biggest Needs: Non-point pollution control; conservation and recycling of water.

FORESTS

Up. Forest values that have traditionally yielded to timber production—wildlife, watersheds and recreation—have received increased attention. A mounting demand for wood, however, may forestall this trend.

Although on national forests, commercial pressures encourage the cutting of more trees (by 30 percent) than

are grown, the balance nationwide is toward replenishment. Increasing population and other trends, however, lead economists to predict a timber famine by 2020 at current use rates. Increasing use of "wastes" will help ease cutting pressure. (When this involves removing material formerly left on the cutting site, however, it may interfere seriously with natural nutrient recycling, requiring use of artificial fertilizers, causing pollution from runoff, etc. As we've learned through experience, nothing comes free.)

Pesticides are being developed with fewer environmentally harmful side effects. Programs are being developed to increase productivity of private woodlots (representing over half the nation's timberland). New mandates for the Forest Service mean they'll now pay more attention to the whole spectrum of uses. For example, they set aside \$27 million this year for habitat improvement.

Biggest Needs: Full implementation of recent laws setting new directions for national forests.

SOIL

Down. In few areas is the saying, "In Nature, there's no free lunch" proven more dramatically than in agriculture. In an attempt to eke ever more out of the earth to feed ever more people, farmers have plowed and fertilized themselves and the rest of us right into major erosion and pollution problems. Loss of topsoil quality and quantity has climbed back to Dust Bowl levels, despite years of research and billions of dollars pumped into soil conservation efforts. Two trends may ameliorate this at least temporarily. High fuel costs force farmers to plow less, causing (in many cases) less erosion; crop surpluses last year may result in fewer acres in

production, with the balance planted to grasses controlling erosion and offering food and cover for wildlife hard hit by the loss of fencerows and odd-corner weed patches.

Urbanites are increasingly snatching up prime farm land on which to grow suburbs. But new guidelines require that such prime agricultural lands be considered in the preparation of environmental impact statements.

Biggest Needs: A fresh approach to soil management, involving basic changes in land use and conservation.

LIVING SPACE

Down. Although the nation's population growth rate is slowing, the population is still increasing; that, and the continuing trend toward the breakup of family groups with each person or couple having its own household, means more and more space is taken up by homes, shopping centers, industries, and other support facilities. Hedging against this trend, conservationists have pushed getting some lands out of reach while they can still be saved for wildlife and wild lands.

Our fragile coastal zones, where more than half the population lives, are under great pressure. The Corps of Engineers, for example—despite recent efforts to clean up its environmental image—continued to issue wholesale "dredge-and-destroy" permits.

Solid waste problems were attacked with the 1976 Resource Conservation and Recovery Act, though disappointing Congressional funding weakened its clout.

Biggest Needs: Development of truly effective land-use plans; broader commitment by individual Americans to minimize their personal environmental impact.

Just a Little Fella

The chipping sparrow is the smallest of all sparrows, weighing less than one ounce.

More Fuzzy Thinking at R.E.A.

IN THE DECEMBER, 1977, issue of *Penn Lines*, the official publication of the Rural Electric Association, Mr. William F. Matson, R.E.A.'s executive vice-president and general manager, exercising his editorial prerogatives, shared with his readers certain opinions concerning the problems which the Rural Electric Cooperatives faced as a result of an early unseasonable snow-storm which occurred on October 16. The storm, which blanketed northern Pennsylvania counties with up to twelve inches of heavy wet snow, came at a time when many trees were still in fall foliage. The trees, bending under tons of snow, caused widespread problems of broken and downed electrical lines. Since the various electric cooperatives making up the Rural Electric network are in the business of distributing and selling electric power to their rural customer-owners, a business which includes the control and maintenance of many miles of electrical distribution rights-of-way throughout Pennsylvania, they, along with the major public utility companies, were faced with the tedious and sometimes dangerous job of restoring service interrupted by the storm.

Reckless Indictment

Mr. Matson's characterization of this "battle against nature" included a reckless indictment of the Pennsylvania Game Commission as being largely responsible for R.E.A.'s problems in maintaining steady and reliable service to rural customers.

Mr. Matson maintains in his editorial "... on private rights-of-way where we are able to maintain an adequate clearance, we had little trouble keeping the lines hot, the big trouble came on State Game Lands where the bureaucrats refused to cooperate in letting rights-of-way crews clear an adequate path through the trees. That policy resulted in hundreds of breaks in the lines. This was not such a big problem until the Game Commission bought up hundreds of thousands of acres of land

and held it out as the medieval Sherwood Forest where only royalty is allowed." This information should come as somewhat of a surprise to the many thousands of outdoor-oriented Pennsylvanians who, along with well over one million licensed hunters, have equal access to all State Game Lands owned by the Game Commission.

Mr. Matson goes on to say that "... hundreds of thousands of dollars of damage were done to these lines," intimating that the damage was caused by unreasonable Game Lands policies. He concludes his editorial comments by suggesting that this was an unreasonable power over the health and safety of the people who live and pay taxes in our Commonwealth and suggested that legislation be designed to break this hold.

Along with those remarks, he suggested that any of the customers of the Rural Electric network who were seriously inconvenienced as a result of outages caused by the storm, contact their general managers for further details on exactly "where the lines were destroyed as a result of our inability to get any cooperation in clearing a path through Game Lands." The three rural cooperatives listed as being particularly plagued by trouble on Game Lands rights-of-way were Claverack, Tri-County, and Sullivan Rural Electric. We decided to take Mr. Matson up on his suggestion and contact the managers of these three cooperatives to ask specifically whether they had any inordinate problems on Game Lands and, more specifically, as Mr. Matson charged, where the Game Commission ever refused cooperation in eliminating potentially hazardous situations on the Game Lands itself.

Before we could even pick up the telephone, our offices received a letter from the Claverack Rural Electric Cooperative which stated they felt they had always received excellent cooperation from the Game Commission and could not subscribe to the spirit or content of Mr. Matson's editorial.

Telephone conversations with the two remaining cooperatives indicated they'd certainly had problems resulting from the October storm, but these problems were a result of the severity of the storm and were experienced on private lands as well as public. Further, both managers indicated they had not talked to or complained specifically to Mr. Matson concerning any of the problems resulting from this storm, nor had they supplied any complaints whereon Mr. Matson may have based his editorial attack. Not a single R. E. A. customer complained to the Game Commission in support of Mr. Matson's spiteful commentary. On the contrary, numerous readers of the editorial expressed shock at its rancorous viewpoint and reassured the Pennsylvania Game Commission that they were not in agreement, implying that, in their opinion, it went beyond the bounds of responsible journalism.

In a previous editorial published in the November, 1974, issue of *Penn Lines*, Mr. Matson, who was listed at that time as general manager for the Rural Electric Association, cited the Game Commission, as well as the Department of Environmental Resources and the Fish Commission, for contributing to excessively high electric charges as a result of what he termed "non-sensical" rules and regulations affecting rights-of-way crossings of land under the ownership of these three agencies. As a result of this editorial, the Game Commission made a detailed examination of its rights-of-way records which revealed that of the thirteen separate cooperatives chartered throughout Pennsylvania, only ten held

licenses requiring payment of annual rentals for rights-of-way over Game Lands. For the cooperatives that held licenses for crossings, the total statewide annual rental amounted to less than \$1,800. The highest total any one of the cooperatives was paying up to that date was \$408 per year. Nonetheless, it was Mr. Matson's considered opinion that these rates were primarily responsible for heavy increases in electric rates to over 100,000 R. E. A. customers.

Latest Editorial

Returning our attention to his latest editorial, if Mr. Matson's views are not particularly shared by the general managers of the chartered cooperatives making up the Rural Electric Association, as we discovered, for whom, in fact, does Mr. Matson speak? We must conclude that he speaks solely for himself in this matter, and as we have just seen, on the subject of the Game Commission, Mr. Matson has been wrong before.

Although as you might understand, we are not overly fond of quoting Mr. Matson, who now holds the title of executive vice-president and general manager, we are nonetheless reminded of a comment contained in his 1974 editorial which we think is particularly apt. In discussing his personal view of R. E. A.'s problems, he stated that ". . . each of the examples comes about because some guy gets appointed to a position where he does not want to think or listen, but prefers to be the bigshot and make fuzzy-headed decisions."

Right on, Mr. Matson, right on.

Books in Brief . . .

(Order from publisher, not from Game Commission)

The Backpacker's Budget Food Book, by Fred Powledge, David McKay Co., 750 Third Ave., NYC 10017, paperbound, 124 pp., \$3.95. A fellow who knows hiking and its requirements tells how to bypass the expensive freeze-dried foods of the backpacking stores and hit the trail with tastier stuff assembled from supermarket shelves. Good dope on stoves, cooking utensils, etc., too. A small book that's worth more than its cost.

Trapping and Tracking, by George Clawson, Winchester Press, 205 E. 42nd. St., NYC 10017, 202 pp., \$8.95. The author has trapped all his life, and here tells how it should be done. His information covers most any species of interest to North American trappers, from scouting for a trapline to getting the best prices for pelts.

PGC Game Fund Contributors—1977

The Game Commission is permitted to accept donations from any person, association, corporation or firm. Contributions go toward purchasing public hunting lands which are used by hunters and non-hunters alike, and for other wildlife management uses. Our records of contributions made during 1977 indicate that the following persons and groups donated to the Game Fund:

Robert G. Bailey, Elizabethtown; Anthony J. Barruzza, Bensalem; Warren Birchall, Reamstown; Dennis L. Boatman, Edgewater, MD; Gregory L. Burkett, Zelienople; Coleman Chapel Women's Circle, Lititz; Jerome R. Crooks, Albany, NY; Cub Scout Pack 271, Manor; George Cummings, Clark's Summit; D.A.R. (Queen Aliquippa Chapter); Dr. J. A. DePalma, Sewickley (in memory of Deputy Forrest "Tuff" Hale); Edward Dunlap, Franklin; Norman Getz, Nazareth; Michael J. Gillespie, Jenkintown; Glen Ridge Garden Club, Erie; Louis Hodak, Valencia; Robert Horts, Galeton; Harry Huey, Gipsy; Ray Huffman, Cleveland, OH; Italian-American Club, Export; Glenn E. Koons, Hershey; Terry D. Kramer, Graterford; Lackawanna

Audubon Society, Scranton.

Robert C. Lambert, Oil City; Timothy W. Long, Lebanon; Jack McKay, Washington; Paul G. Mengel, Orwigsburg; Sylvia O. Mitchell, Beaver; Charles H. Nehf, Allentown; William F. Pendred, Pittsburgh; St. Rita's Men's Club, Munhall; Edward L. Shaffner, Harrisburg; John Stair, Tucson, AZ; Alvin E. Sweigart, Morgantown; Robert J. Taylor, Conemaugh; David Upole, Belle, WV; John Vrablic, Ford City; Westminster Garden Club, Erie; Winfield Twp. Elementary School PTA, Cabot; Joseph J. Woodburn Jr., Philadelphia; Evan R. Wright, Wilmington, DE.

In addition, several persons made their contributions anonymously and numerous individuals contributed at the Pymatuning, Middle Creek and Siegel Marsh Visitor Centers.

If we have inadvertently missed giving credit to any deserving person or group, we apologize. The many contributions, large and small, aid Pennsylvania's wildlife management program, and testify to the sincere concern of Pennsylvanians and friends in other states for the Keystone State's living resources.

Book Review . . .

The Cult of the Wild

Part of our fascination with wildlife stems from the stories we have heard about them. But do we know how much is fact and how much is myth? **The Cult of the Wild**, a timely book, challenges us to find out, because "false and sentimental notions about animals can only cloud or retard intelligent conservation." Focusing on 11 different animals, Mr. Rensberger, science writer for the New York Times, shows how myths have been perpetuated and how some have even been created in recent times. Of the animals covered, those that are relatively close neighbors are wolves, bears, sharks, whales, and dolphins. But we know the others—lions, elephants, gorillas, hyenas, baboons, crocodiles—from movies, stories, and zoos. The debunking of some wildlife myths can be an unsettling experience because we have become accustomed to picturing certain animals in idealized or fantasized ways. Nevertheless, argues Rensberger, the world is crowding out some wildlife, so we need to develop a mature appreciation for what the animals really are. For example, wolves are really not relentless hunters that pursue a prey until it is caught, and lions are really not noble animals but were, in fact, once considered to be "vermin." We are reminded that there was never a Bambi or a Big Bad Wolf. The book offers some interesting suggestions for a new conservation ethic and contains insights about conservation movements. (**The Cult of the Wild**, by Boyce Rensberger. Anchor Press/Doubleday, 245 Park Ave., NYC 10017, 1977, 279 pp., \$7.95.)

WOODLAND THOUGHTS

BY LOU HOFFMAN

Wildlife Education Specialist



Winter's icy grasp doesn't give way to spring's eventual thaw easily. But like in a tight fist, there are those muscular spasms that give way to involuntary letups and we get a peek at what lies below winter's blanket of cold. The pre-vernal escapees are usually stifled by lingering storms or cold, but in a short-lived, fireworkish fashion they brighten an otherwise darkened sky. With the season of the warbler and the cabbage and the gobbler and the peeper just over a few more sunrises, I'd like to reflect on some of these season "earlies" that are more timely of late winter than of the young spring ahead.

A DAY AFTER the groundhogs of the land rambled up top to look at the shadows, a mourning dove was cooing outside our office building. Seems as though animal communications break down as easily as those of the people-kind, for the chunky sleepy rodents only a day earlier predicted winter's sting would pierce us for another six weeks. Maybe though, the arduous *coah—cooo—cooo—coo*—of the dove was an optimistic attempt to discredit those fellows who retreat beneath the sod to ignore the cold. The cooing didn't work. That night the thermometer dipped to 16 degrees Fahrenheit.

Actually, a year earlier I heard a dove cooing on the third of January—near the same spot. Whatever the reason, and no matter how seasonally displaced, I'm grateful for any sign of wildlife before retreating into my windowless office in the concrete cave

otherwise known as the South Office Building.

Most of my early spring encounters are benchmarked far from Harrisburg, or at least en route to those places. I remember one eventful and fatal happening late last winter. One evening, early in March, I was driving toward the Seven Mountains summit in northern Mifflin County. Having just made a mental note of the warm evening (it was 60 degrees or more) my train of thought was splatted by a large flying insect just as I reached the top of the grade where the elevation is around 2800 feet. His early jaunt ended disastrously and, three pumps of the windshield washer later, I was thinking even more how spring was near.

Then, too, I remember a weekend in mid-March when I was poking around some of my haunts near my second home—northcentral Pennsylvania. Spring was far from the landscape and the naked grayness of the maples hardly even contrasted with the washed-out greens of the hemlocks. The meadows were brown and looked tired from weeks of sub-zero temperature and winds that beat through them during the earlier winter months.

But in spite of the barrenness, there they were. Three dozen or so robins foraging in loose formation, eastward through a field near the road. Like roosters and sunrises, robins signaled the beginning of the spring weeks ahead, and when darkness came I settled into the cabin warmed by passing thoughts as much as the fiery stove.

But the loosening grip of Old Man

Winter was tightened that night, and he retaliated faster than I've ever seen. At 10 p.m. the stars brightened a clear sky; by midnight clouds sneaked in, and when I awoke around 6 a.m. more than a foot of snow covered everything.

My boyish smile was upturned by some heavy shoveling, and plowing out took more than a little effort. A brewing pot of coffee and that easy chair by a window that points to a favorite, pondering ridge almost kept me there. But I had to meet some folks, and I begrudgingly pushed out into the heavy white.

Herring Gull

Along the way I found some others who, I suppose, were even more surprised by the storm. Driving along the East Fork I was dumfounded when I saw, in the middle of the road, a herring gull. I'd never seen one in this country at any season, much less after a late winter storm. He seemed more than a little distressed with the whole situation, and with the snow still falling heavily his orienteering was off considerably. He flew off the road and landed nearby, still puzzled—and still lost.

A few miles later I came across a single robin perched on the top of a sumac stalk. Slipping and floundering, he was trying to dislodge snow and then seeds for an early chilly breakfast.

Stopping for coffee in a small mountain town, I heard some other fellows discussing the drastic change in the weather. One said he'd even heard peepers sounding off the night before. Chuckles followed the accompanying but unprintable remark. Five old codgers, jawboning over coffee about the weather; who was it that said, "Everyone talks about the weather but no one does anything about it?"

Although the snow did change things abruptly, I couldn't discount its beauty. Branches everywhere wrapped in a soft crystal of white reflected one of the most scenic storms I've weathered in quite a while. The snowy interruption was one of those brief licks winter saved for last.

But it was just that, an interruption, and I found a dove sitting on a nest three days ahead of spring's birthday. Actually that's not unusual, for doves that spend the winter here routinely climb into nests weeks ahead of their migratory cousins coming up from the South.

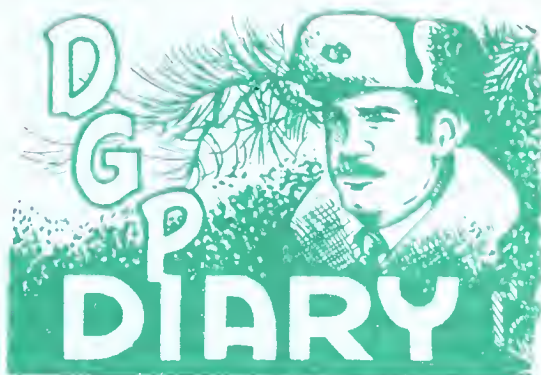
Two weeks earlier, coltsfoot was sprinkling flecks of yellow along the roads near my house. Many folks mistake the tightly worked, ground-hugging plants for dandelions, but they deserve more affection. Of course, a spring field soaked in dandelions and overflowing with warm yellow isn't something I resent—unlike those suburban lawn lovers armed with herbicides.

Late winter's armament is dented further by early wedges of geese whose out-of-sight and nighttime honks are warm reminders on chilly evenings of what's in store. And late February pheasant jousts will soon be accompanied by a barrage of early morning crowing and cackling by these living gaudy ornaments.

Other sounds of the coming spring are equally predictable. The drake mallards' quacks pierce the morning marsh in between the bobs of his bright green head, all of which spells a loving message for his mate. And a half-day later the nasal *peents* of the timberdoodle precede the last rays of light. His whistling spirals followed a simple love song, and pulled the curtain on the setting sun. Then a chorus of frogs and toads and all their relatives start the nighttime version and the whole affair is fired by a fresh crew of players all running just a few weeks ahead of spring.

The signs of the season, before her time, add a lot of color to offset late winter doldrums. They dress a landscape wrinkled from winter's grip, and their swells of warm spark the coming spring. Their notice is pleasing to the outdoorsman and they forecast an end to the cold. I hope you found time to feel their presence this past month, 'cause they're gone again for another year.

EARLY SPRING is one of the worst times for dogs chasing deer. During this time of year, deer are hard pressed, harder even than in January. By now their stores of body fat, built up over the summer and fall, are exhausted. Does are heavy with fawns and need extra energy to support the new life they carry. If their energy is expended during a chase, they have trouble finding sufficient food to replace it. One of the sad aspects of this subject is that people will not believe their pets chase deer. In nearly all the cases I've investigated, the guilty dog was someone's pet. Often the dogs have been gone less than a half-hour, with their owner thinking they are lying peacefully on the back porch!



By Jack Weaver

**District Game Protector
Tioga County**

April 2:—Today I aired our first program over the new radio stations. Now, with the aid of WFRM in Coudersport, and WGCR/FM we are covering most of the twin tiers of Pennsylvania and New York State.

April 3:—I have been receiving complaints of dogs chasing deer near Covington, but every time I go there I can't find them. A farmer called today to tell me he had caught one of the dogs. When I arrived I found the dog tied up by the barn. I'll notify the owner, who is in violation of the dog law for allowing his dog to run at large, and of the Game Law if the dog is running small game or endangering deer.

April 4:—I had a new two-way radio installed in my Jeep. My old radio was over twenty years old and failing miserably. Another piece of new equipment received recently is a red light which attaches to the top of the vehicle. I haven't had an opportunity to test it in a law enforcement situation yet, but it works fine slowing down traffic when I have to pick up a road-killed deer along a busy highway.

April 6:—The Williamson High School Sportsmen's Club invited me to attend one of their meetings. I took along a movie and talked about spring turkey hunting. This club meets during a school activity period and is for both junior and senior high students. The club's objective is to teach the various aspects of true sportsmanship.

April 7:—I met with Game Biologist Jack Giles so he could gather data on a road-killed bear I picked up near Antrim last night. He extracted a tooth, weighed and measured the bear, then removed the re-

productive tract. By cutting a thin slice from the tooth and counting the rings of enamel under a microscope, biologists can age a bear much as you do a tree stump. With this information they learn the age structure and reproductive rate of black bears in Pennsylvania. Such information is vital in managing any species of wildlife.

April 8:—Deputy Dave Darby and I attended a Food and Cover Corps meeting near Coudersport. Land Manager Dave Brown sets up these meetings each spring when Potter County's famous leeks are ready. It is an opportunity for game protectors and our land management people to meet and discuss mutual problems. And, when you add a little ham to those leeks, plus some homemade bread, it makes for one awful good meal. Of course, no one can stand to be around you for about a week after that.

April 11:—This evening I received a phone call that a known violator had killed a deer and had the venison in his freezer. While DGP Lynn Keller and Deputy Leonard Worden stood by, I decided to get in touch with my informant before I went for a search warrant. It was a good thing I did. He is also a known violator. It seems the two had a fight, and one of them figured the other probably had some venison in his freezer. He usually does. So, this guy decided to get even by calling the game warden.

April 14:—We held a deputy meeting at Jim Meachem's home this evening. Waterways Patrolman Ray Hoover and one of his deputies were there to discuss fishing regulations and enforcement. We always help Ray out by patrolling during fishing season and he returns the favor by bolstering our patrols during hunting season.

Give

GAME NEWS

To a Friend . . .

April 16:—On the first day of trout season, Deputy Jack Richards and I drove to Hamilton Lake. I had worked this area last year so I felt certain that some people were catching over their limit. It doesn't pay to work here in uniform because violators just pass their extra trout to friends when an officer isn't looking. I haven't shaved for over a week now, and wearing faded blue jeans and a flannel shirt, I felt I looked enough like a hoofty to mingle into the crowd. I picked four or five people to watch while tending my own rod in order to keep up my cover as a fisherman. Everyone was standing so close I was afraid they would see me mark down each time they caught a fish. It took until noon, but I made two arrests. One of the violators had several trout over the limit.

April 20:—With the head of Babbs Creek as my final trek, I completed my winter deer mortality surveys. Considering the severity of the winter, deer in my district fared quite well. I found only one dead deer along the three different routes I run. Acorns were still in abundance and contributed to the light mortality.

April 21:—After delivering my regular article to our local newspaper, I stopped to examine some muskrat damage at the edi-

tor's farm pond. He was lucky. I found only two active holes in the dam. The problem can be quickly solved by maintaining a couple of Conibears at these entrance points. Trapping is about the only way of controlling muskrat populations, which wreak havoc on farm ponds.

April 26:—I thought one of the two fishermen on a pond was acting suspiciously when he dropped his rod and tried to walk nonchalantly away from it. I hid my car down the road and decided to wait for awhile from a stand of nearby pine trees. After I saw them both fishing, I walked down. Sure enough, the one who dropped the rod didn't have a fishing license. They were a couple of college students and they didn't help their cause when they lied about their names and addresses.

April 27:—This year my first beaver damage complaint was near Lawrenceville. The beavers had dammed up a small stream which was flooding a farmer's field. I tried for over a week to live trap them without success. John Howe, on whose land the dam breast is built, agreed to keep the dam torn out if I promised not to set killer traps. That suited me, so we set to work removing the dam. Tearing out a beaver dam is hard work and, although I appreciate John's interest in saving the beavers, I don't envy his part of the bargain.

April 30:—I spent the morning patrolling and checking turkey hunters. The hunting pressure was light and I didn't get to check any gobblers all morning. But I didn't run across any violations either, and if the rest of the season remains the same it will suit me fine.

Potter County Turkey Calling Contest

The fifth annual Potter County Championship turkey calling contest will be held May 7, beginning at 2 p.m., at Potato City Motor Inn on U.S. Route 22 between Coudersport and Galeton. Prizes will be awarded in both state and out-of-state classifications. A Junior Division will be held for youths 16 years and younger. For information and entry blanks, write to Potter County Recreation Inc., P.O. Box 245, Coudersport, Pa. 16915.

Skinny Dipping

Sea turtles have jettisoned much of their shell bone and are among the fastest moving of modern reptiles.

HARDLY A DAY goes by that I don't see a bird. Or, for that matter, a day when most people don't have some sort of contact with these widespread, conspicuous creatures. There's certainly no shortage of them. Taxonomically, birds are the most diversified of the vertebrates, with roughly 28,500 species and subspecies compared with 15,000 mammals and 10,000 fishes). Numerically they stack up pretty well, too, with an estimated 2 to 20 billion on our continent north of Mexico, and perhaps another 80 billion distributed over the rest of the planet.

The numbers are staggering. But what really grips me about birds—what makes me stop and wonder, and sometimes feel common and earthbound and groveling—is that they fly.

I put the binoculars on a band of starlings perched in the old walnut. They are drab, stub-tailed, and short of neck. Their breasts throw off green and purple iridescence, and the backs of their heads are covered with spiky, backswept feathers which suggest unwashed hair. Their beaks, shaped like needle-nosed pliers, are yellow, tinged brown.

But they fly. Lord, do they fly. In midair, their bodies appear cigar-shaped. Their wings pump for power, then lock for effortless gliding. Packed in formation, they all seem to obey the same set of impulses, darting left, then right, rising over the pines, skirting the barn foundation, splitting around the big maple, regrouping, and finally wheeling for the apple trees—they coast there—like grains of pepper whirled in a water glass.

Flight. Everything about starlings and other birds hinges on this activity. Size, conformation, weight, musculature, bone structure, metabolism, circulation, respiration. . . . all must dovetail into an aerodynamic design. And while this design varies slightly from species to species (and more radically up through genus, family, and order), all birds are basically similar. They have to be in order to fly. Birds are a lot more uniform than mammals: hummingbirds differ from condors far less than shrews differ from whales.

Thornapples



Chuck Fergus

The fossil record indicates that birds evolved from sluggish, scaled lizards which crawled the ground in Triassic times. If so, it is a remarkable and complete transition, key to which were weight reductions necessary to get the prototype birds off the ground. Joel C. Welty, in his excellent *The Life of Birds*, writes: "To lighten their airships, birds have thrown overboard everything possible that is not concerned with flight."

The greatest throwing overboard probably took place in the skeleton, where, over millenia, birds trimmed ounces two ways: by evolving thin, hollow bones, and by fusing bones which are separate in most other vertebrates.

The long wing and leg bones of a bird are hollow. Yet they're amazingly strong, reinforced on the inside by a network of thin bones much like the internal struts of airplanes. The skull, too, is paper-thin, multi-layered, and strengthened by these interlacing bony trusses.

Fusion has occurred in the hip girdle, where the sacral vertebrae have molded themselves to the pelvis. Where once there were several bones, now there's but one—strong, light, and efficient. As if these reductions weren't enough, a bird's ribs are precariously thin and jointed, meshing to form a resilient basket that protects the internal organs.

The results of all this paring can be

extreme: the skeleton of the seagoing frigate bird (a consummate glider with a seven-foot wingspan) weighs about four ounces—less than the weight of its feathers.

Birds have no teeth, and consequently no need for heavy jawbones and muscles. Replacing these is an internal organ called a gizzard, a tough, muscular bag containing particles of grit which the bird picks up and swallows. The grit serves as teeth, the gizzard fills the role of jaws, and in tandem they grind up everything the bird is likely to eat. The gizzard's weight is amidships—not up front, where it would make a flying machine nose-heavy.

Birds also have eliminated bladders and urethras. They make do with simpler, lighter systems which concentrate uric acid and mix it with intestinal waste to form guano. This guano is frequently voided, as anyone who parks his car outdoors can tell you.

Other weight-reducing adaptations are external. Birds have rid themselves of skin glands, except for a single oil gland at the base of the tail, which is used in waterproofing the feathers. And the feathers themselves are a distinctive and versatile adaptation. They

GALLINACEOUS BIRDS—pheasants, grouse, turkeys—have strong breast muscles but can fly only relatively short distances at a stretch.



propel; they insulate; they streamline; they protect. (Some ornithologists claim that for their weight, feathers are stronger than any man-made substitute.) And, of course, they're much lighter than the reptilian scales from which they evolved.

Any student of aerodynamics will tell you that a machine—whether run on gasoline and metal, or blood and muscles and feathers—must combine power with light weight in order to get off the ground. The power for avian flight comes from several adaptations. One is warm-bloodedness, a property unique to birds and mammals. A basic rule of chemistry holds that the speed of any chemical reaction roughly doubles with each temperature rise of 10 degrees centigrade. And chemical reactions in animals translate into physical actions: nerve impulses, reflexes, muscle movement—the stuff of flight. Birds, with their high body temperatures, are ready for quick action at any time, summer or winter, day or night. Several species of sparrows have body temperatures of 107 degrees F. (42 C.), some thrushes, up to 110.5 F. (43.6 C.). Small wonder that the reflexes and speed of a ruffed grouse (temperature about 43 C.) often triumph over those of a shotgun-toting hunter (37 C.).

To charge their fast-idling bodies, birds need lots of energy. They tend to shun bulky, low-calorie foods such as leaves and grass in favor of seeds, nuts, worms, insects, and rodents. As one ornithologist puts it, "They burn high test gasoline." And they burn it rapidly, efficiently, and in large amounts. Fruit eaten by young cedar waxwings may pass through their digestive system almost completely utilized, in as little as 16 minutes.

The breast muscles power a bird's wings. In strong fliers such as pigeons and falcons, these muscles may compose half the body's weight. In vultures, condors, and other soaring species, the breast muscles are greatly reduced, and in their place are well-developed tendons and ligaments which hold the wings in position for lofty, fixed-wing flight. Gallinaceous birds—grouse, pheasants, turkeys—



ave strong breast muscles but can only fly short distances: the "white meat" of their breasts reveals that few blood vessels feed these muscles. However, their darkly fleshed legs are well supplied with blood, enabling these fowl to fly long distances without tiring.

Perhaps the best power-booster in a bird's system is a series of air sacs which connect with the lungs and branch throughout the rest of the body. Parts of these sacs enter the hollow interiors of large bones and may even penetrate the small toe bones. They have two functions: to cool down a bird's speedy, hot metabolism, and to supercharge the wings by boosting air intake during flight. A man's lungs compose about five percent of his body volume; in comparison, the respiratory system of a duck makes up 20 percent of its volume (two percent lungs, 18 percent air sacs.)

We understand the basics behind birds' gliding flight: the static wings of a soaring hawk perform like the wings of an airplane. But despite all our instrumentation, data, studies, charts, and photographs, we still don't know why their wing-flapping flight works.

We have a handful of fossils, theories, and observations. We have what we think are the facts of evolu-

tion—the turning on nature's lathe of beak and claw, bone and feather, ear and eye. We have these things, and we are still humbled by the simple beauty of a dove speeding above cornstubble, a lone gull wandering over the white-lipped combers, or a sharp-shinned hawk in headlong, surging pursuit.

A Raven Feather

As I write this, I am looking at a raven feather. Its quill is white where once it attached to the bird; the shaft grays into black farther along its tapered length, dividing the feather into two sleek, jet vanes. The leading edge of the outer vane bends back upon itself, as if frozen in the act of cleaving wind.

I remember the wind.

It was in the New Mexico high country, 12,000 feet above sea level. The wind had sprung up soon after dawn, strong and westerly, lending at least one certainty to the day's hunt. Stalking into the wind, which was reduced in the timber to a breeze, I'd been able to get close enough to see flashing elk antlers, but never to take a shot. The wind was still banging through the trees when I left timberline below me. We had hunted this

country four days, and I wanted to see what it looked like from on high.

On the rimrock the wind threatened to tip me. I had to hold the Stetson on my head. The mountains were bald on top, thickly forested on their slopes, tailing down to creeks and meadows, spreading to the sky's edge. Over them, far out in the blue and coming in my direction, were two dots.

Ravens. They turned over the lip of the mountain, sunlight flashing off feathers. Their wings curved back like the trailing tips of boomerangs, their beaks were black and heavy. Twisting into the wind, they stalled against it, banked, and let it whisk them off, only to swap ends and pump furiously back toward me.

Wingtips almost touching, they raced along the mountain's edge. With each circuit, one would break formation, stoop, and, flying upside-down, come up under its mate's belly. They

would touch claws, separate, and fall like stones. The ravens did this five, six, seven times, each maneuver spectacular, exuberant. In the wind, the performance was silent. It was indeed a performance, for they knew I was watching: twice they headed into the wind to let it hold them in place, swiveled their heads, and stared over me from 20 feet away.

Abruptly, they tired of the show. They towered, and I glanced away and then could not find them when I looked back.

I stared at the granite I was locked onto. At my feet were white-dabbled rocks and, wedged into a crevice, a black feather. I picked it up and slipped it in my hatband. Once again I looked to the mountains, to the high turquoise sky, where I could make out a pair of black dots dancing on the wind.

I was at the top of my world, but they were so much higher.

Eco-Meet Idea Wins National Honors

PENNSYLVANIA districts of the U.S. Corps of Engineers took two of four national awards for significant environmental contributions, as judged by nationally known environmental leaders.

The Pittsburgh District was honored for originating the "Eco-Meet" program where students compete annually in events to test their knowledge of wildlife and plant identification, interpretation, ecology and orienteering. Hundreds of students from western Pennsylvania and neighboring states have participated since the events began in 1976, and the idea has been adopted across the nation by other Corps districts, governmental agencies, school districts, and private groups.

The Philadelphia District was cited for the relocation of the historic Gruber Iron Works at Blue Marsh Lake, site of a Corps water project.

Remaining honors went to the New England Division for storage of flood water in the marshes along the Charles River, a non-structural solution to flood control promising many environmental benefits, especially to wildlife; and to the Fort Worth (Texas) District for preserving a valuable bottomland ecosystem at Steinhagen Lake.

Daugherty Receives PFA Award

Sue Daugherty of Camp Hill recently was presented the Pennsylvania Forestry Association's 1977 Conservation Award for her work in behalf of the Appalachian Trail in Pennsylvania. She played a major role in organizing and leading the successful effort to gain legislation protecting the corridor through which the A passes. Much of the land is still in private hands and therefore was vulnerable to development.



For what it's worth. . . .

Preserving Proof

By Keith C. Schuyler

Photos from the Author

BBETTER HAVE it mounted, you'll never get another one like that!"

This was the observation of a friend over 40 years ago when I returned with my first deer. It had fallen to a 16-gauge felled slug on the first day of the 1937 antlered-deer season. Until my friend made the suggestion, it had not entered my mind to have the head preserved.

In fact, I had a mental block against mounted animal heads. Most I had seen were moth-eaten and ugly replicas of the beautiful creatures they were supposed to represent—hide curled back at eyes and mouth to reveal yellowed plaster of paris, ears crumpled and shrunken, frequently cracked. And they were almost universally dirty.

But gradually it sank deeply into my teenage thinking that the old 12-

pointer I'd got was a better-than-average trophy. Even so, the head and cape bounced around in my brother's Model-A Ford coupe for a week before I got around to taking it to J. August Beck in Duboistown for a bid on the project.

Cost—\$25! That represented over two weekly paychecks at my 29½¢ per hour rate! Yet, there was an almost immodest satisfaction in the price, as this was the highest of three charged, based on the size of the animal. Anyway, the price included a beautiful plaque for a base.

Well, the old boy sometimes gets looking a bit grim from the grime of tobacco smoke, normal dust and the effects of reflected sun on hair that is no longer replaced by nature twice a year. Some of the natural color will never come back. But a light sponging with Ivory hand soap followed by a clean moist cloth, then a dry cloth and a combing, removes most of the smoke stains. A vacuum cleaner with brush attachment takes away deeper dust, and

YOU CAN PRESERVE proof in the form of antlers (above) or other simple trophies by yourself. But leave more elaborate mounts to professional taxidermists.



THIS NICE WHITETAIL, taken by Schuyler over four decades ago, is still in excellent shape due to the simple care he has given it through the years.

the temptation to moths is discouraged by inserting moth crystals inside the ears where they won't show. Castor oil deftly applied with a brush around the eyes and nose every few years prevents cracking. A touch of diluted Van Dyke oil color, by Grumbacher, livens up the natural look to the eye perimeters and restores the soft leather look to the nose if needed. Window cleaner or soapy water, well sponged, restores luster to the eyes that look beyond the walls of my den. Wilson E. Ditty, Shamokin Dam taxidermist, keeps me up on latest procedures.

In short, it has taken only a few minutes from time to time over the years to keep my first and best buck looking close to the way he appeared coming out of that fruit orchard over four decades ago. Just as importantly, he has brought the experience to mind many times through the years.

Two years after bagging that buck, I got into the bow and arrow hunting business. It was always my desire to get a buck with the bow that would be a match for the first. It took me 36 years! And it was a Wyoming mule deer that

filled the wall space mentally reserved for a companion mount.

Oh, there were deer, quite a number of them, in between. But trying to make a living precludes many opportunities to chase only big racks around the mountain. That brings us to the point of this somewhat long winded and personal introduction to preserving proof of some memorable experiences.

The odds against getting even one deer—any deer—with the bow emphasizes the achievement. Assuming that the bow kill reaches 4,000 on January 14, and a guess at the total number of licensed bow hunters leveled out at around 230,000, chances of success come out to 1⅓ percent. Even if this guess is bad, the actual figure would vary more than a small fraction of one percent.

That makes *your* deer pretty important! If you scored, you were one of every 57½ bow hunters who did. There aren't that many active archers in the average archery club. That should ease the pain a bit for you other 98 percent of bow hunters who failed to score in the recent seasons.

No Threat

Okay, so the deer you did take was a threat to the record book. But in your experience, it was quite an event. I think so, too. And it's sort of nice to have a memento of the occasion. Of course, I admit to being a bit sentimental about some things. For years I carried around the fired shotgun shell that killed my first rabbit, as well as the left hind foot of that bunny. It's not the kill, it's the experience associated with it that makes it important. So you should have something as a reminder that on at least one occasion you put all together and came up a winner.

I'm only sorry that I didn't mount at least the ears from the first deer that fell to my bow. That doe was the third second big game animal recorded by the Pennsylvania State Archer Association up to the end of 1950, the year before bow hunters were granted a special hunting season in this state. And, of all the experiences that have been my privilege over these many years, that one was the most gratifying

"Just a doe."

How many times do you hear that answer given almost apologetically to the question, "How'd you do in bow season?" Some compound the self-insult by explaining, "I didn't have much time to hunt; just weekends and a couple times after work during the week. Finally this old girl stood broadside to me at 50 yards or so and I just couldn't resist." This is trying to take credit for a long shot (actually too long, but 25 yards of it is exaggeration anyway) to excuse shooting a lady deer.

The questioner, who is one of the 56½ who missed, further dims our hero's image with something like: "Yeah, I had lots of chances at does. Could have shot at least 50 during the season. But I was waiting for horns." (Of course, he'll wait forever as no deer have horns.)

Well, don't let 'em put you down. Instead, put something from your trophy—because it is a trophy—up where you can look at it while you eat venison. Your detractors either can't hit a doe with the bow or they want to hold back so that they can go gun hunting in season. You are a successful bow hunter, and that's what it's all about. How many of these jokers will be out in the extra archery season if they fail to score with the gun? If they were dedicated bow hunters, I'd have more competition out there in the after-Christmas cold most years.

So now you know what all that gobbledegook in the beginning of this was about. With a reasonable amount of care, a mounted deer head or other trophy can be made to look natural for many years to come. Not only can it be an attractive wall ornament, it is your reminder that all the long practice and expense was really worth it.

This is not a pitch for taxidermists. Nevertheless, they do serve a useful function for the sportsman who wants



IT TOOK Schuyler 36 years to bag another deer to match the first one he ever shot. This fine mule deer, taken in Wyoming with the bow, was worth the wait.

to preserve a trophy. Not all are outstanding, although most do a respectable job, since they must pass an examination to advertise their services. Still, some are better than others. It is well to inquire around before you risk your trophy to someone who has proven less than highly professional in the past. Some are excellent at mounting fish, but are weak on animals, and vice versa. Prices vary, but don't let a few dollars come between you and a real professional job.

A taxidermist is necessary only if you want to preserve the entire head or carcass of an animal or a bird. If it is only the antlers that you want, you can easily do the job yourself. Simply saw off as much of the skull as you wish to attach to a board or plaque. You can use raw lumber and shape and finish it to suit, or you can buy a finished plaque from a taxidermist or a cabinetmaker who sometimes uses leftover lumber for this purpose. It is a simple matter to fit the skull to the board. You can use clear varnish on the skull plate or stain it, preferably in a dark wood color to accentuate the horns or antlers. Never paint or varnish the antlers. Just wash them clean.



If you want to cover the skull plate with hide and hair, you should have the entire hide tanned commercially. Or you might wish to tackle the job yourself. Check your nearest library for sources of information. Then you can cut a piece to fit your deer skull and save the rest for future racks or other purposes.

Some years ago I had a deer hide tanned with the hair on for use on an easy chair that is covered with simulated leather. Natural and commercial hair oil of persons using the chair over the years had caused the material to crack. The deer hide makes an attractive and practical cover. It's warm against the back in cold weather and not uncomfortable during the warm months. If the tanning job is a good one, you will have few problems with shedding hair, but this can be a real nuisance if the hide is improperly tanned.

Of course, this memento thing can be carried to extremes and simply clutter up the house. If you have your own den, you probably won't get much argument from your spouse, but scattering mounted trophies all over the house isn't going to endear you to others who use the same facilities.

Some non-hunting visitors aren't turned on by an excessive amount of displayed wildlife parts, and you may find yourself defending the idea rather than accepting their plaudits. To others you come up a braggart by implication. But if you have your own hideaway, those invited to it will understand.

Basically, the idea here is to satisfy your own desire for a reminder of something that has special meaning for you. If a trophy or two fits the general decor of your home, don't hide the evidence that you are a successful hunter. If your guests are venturesome enough to bring it into the conversation, they do so at their own risk.

Aside from any ego that might be involved, where do we stand esthetically in preserving any part of a wild creature? Is it better to permit an animal or bird the dignity of instant and complete death, rather than slow deterioration above a dusty fireplace?

The questions could be debated. But into the debate would certainly enter the use we make of domestic animals. We wear their hides, walk on them, hold our pants up with them, brush our hair with them. . . .

Perhaps the real answers lie within each hunter who wishes to retain a life-like trophy which has particular personal meaning. Among other motives is that of retaining the wild grandeur of a creature for as long as possible. When this has been served, the remnant should be destroyed.

I would never want to be responsible for negative feelings in others such as I once had for ugly misrepresentations of the great outdoors. Simple horns or antlers mounted can never be offensive. A head mount which no longer serves its purpose can be reduced to such a display and still preserve the proof.

* * *

The National Archery Association has asked that inquiries relative to Junior Olympic Archery Development (see January column) be addressed to NAA—JOAD, 1951 Geraldson Drive, Lancaster, Pa. 17601.

* * *

Myrtle Miller Honored

Myrtle Miller, executive director of The World Archery Center, who was featured in the February column, became the fourth woman and the twenty-fifth person to be inducted into the Archery Hall of Fame at Miami University, Oxford, Ohio. This select group includes notables back to 1879.

Not Where We Come From

The noxious fluid fired by skunks is known as mercaptan.

For years, handloaders and shooters have had a maze of informative material available on jacketed bullets. Now the cast bullet buff has a reliable source to turn to with the advent of . . .

The Cast Bullet Association

By Don Lewis

Photos by Helen Lewis

I WAS STUDYING several large beech trees through a compact set of Bushnell binoculars when I came face to face with a gray squirrel peering at me through the fork of a smaller beech not 40 yards away. Without taking time to be careful, I let the small binoculars drop against my chest and reached for the rifle. This unwise move sent the squirrel whisking around the tree faster than I could blink. Three long minutes of holding the Remington 300 against a tiny sapling only made me tired, so I lowered the rifle to the top of a stump. The gray was gone, or so I thought.

Relaxing my scrutiny for just an instant left me offguard when the wily gray jumped from the beech and raced up a battered snag. The crosswires barely settled on the squirrel when it was off again to another tree. The game of hide and seek went on for a full five minutes before I could touch off a shot from my 308. The gray froze for a second, then slid to the ground. It was 35 long steps to the base of the tree, and after field-dressing the squirrel, I dug the cast slug from the base of the beech.

A 35-yard shot is nothing out of the ordinary for the rifleman-squirrel hunter, but this one gave me a lot of satisfaction because it was the first squirrel I had shot with a deer outfit using a reduced load and a cast bullet. Before the morning was over, I collected two more grays and a small black squirrel. None of the shots was over 40 yards, but they did prove the outfit was accurate.



STEVE MYERS, Franklin, Mass., president of the CBA, won the 100-yd. BR for score and 100- and 200-yd. BR group aggregates in Limited Rifle category. Steve used a M700 Remington 308 and 6-18x Redfield.

My successful hunt was due in part to a longtime friend, Tom Leete of Coudersport, who had been preaching reduced loads and cast bullets for many years. I had nothing against Tom's philosophy, but my experiences with lead bullets in centerfire rifles had been limited. On top of that, I felt the cast bullet was a part of another era, so to speak. I thought such bullets lacked velocity and were a nuisance to make. Tom's insistence that I was wrong forced me to try his favorite squirrel load for the 308—5 grains of Unique ignited by a CCI pistol primer and a .313 pistol slug that had been sized down to .309. Velocity was a mild 1,250 f.p.s.

Mild as the velocity seemed to an aging woodchuck hunter like me, it sure produced results in the squirrel woods. I won't go so far as to say I was an immediate convert to the casting clan, but it wasn't long until part of my testing shop was equipped with an electric furnace, a variety of moulds and dippers, and a Lyman bullet sizer and lubricator. My first solo attempt was the pure lead ball for the Thompson 50-caliber Hawken, and it was immediately apparent that the beginner probably won't enjoy instant success. Fortunately, I have friends like Leete and handgun writer Bill Roberts of Ford City, who can supply solid answers on any casting problems. It wasn't long until I was turning out respectable looking balls that shot tight groups at 50 yards.

Same Problems

My casting bench has grown considerably since then, but the more I became involved, the more problems I faced. During the last several years, I've talked with a number of cast bullet advocates, and we all seem to share the same problems. I was only scratching the surface, but many of these casting buffs were dead serious about their work. They were interested in becoming more involved in the technical complexities in casting and shooting lead bullets. There was a definite need for an organization to promote the use of cast bullets for both hunting and competition. The advent of the Cast Bullet Association, Inc., brought it all to fruition.

According to Steve Myers of Franklin, Mass., president of CBA, the original intent was to promote fixed metallic cast bullet cartridges. It was felt that breech and muzzle loader shooters already had organizations geared to promote their form of shoot-

ing. Another point was that few modern shooters realize the accuracy potential of the cast bullet. Less-than-inc groups for 5 shots are not uncommon at 100 yards.

Steve explained that CBA would encourage the use of cast bullets along with promoting individual experimentation, and that CBA would negotiate with manufacturers for improved cast bullet components and equipment. It would also seek a means for measuring the degree of improved cast bullet performance. Currently this measurement is in the form of postal matches where the shooter mails in his targets for scoring purposes. Long range objectives include regional and national shoulder-to-shoulder matches.

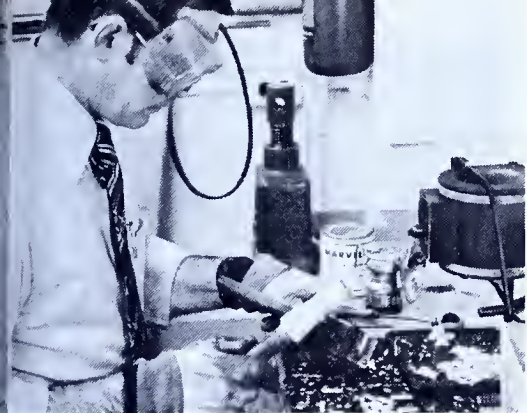
The Cast Bullet Association began in 1976 in the minds of Howard Thomas of Indianapolis, Ind., and Ken Mollohan of Freeport, Pa. Howard had become frustrated by his inability to consistently shoot small groups with cast bullets when using rifles that grouped well with jacketed bullets. He felt that a rifle should do equally well with both kinds.

Discussions with other cast bullet users, including Ken Mollohan, revealed that each was having the same problems and each was making the same mistakes. As Steve Myers put it "they were reinventing the wheel." Thomas and Mollohan decided an organization was needed to disseminate cast bullet information. Thus, CBA was born.

In order to make CBA as effective as possible, "The Fouling Shot" was begun. This bimonthly newsletter with its wealth of casting information in itself makes the \$7.50 membership fee worthwhile. For instance, in the December 1977 issue, Ed Harris has an interesting assessment on Hotchkiss molds. Ed discusses in detail the pros and cons of this mold and tells how some extra work on his part produced excellent bullets.

From what I gathered talking with Mollohan, Myers and Harris, CBA is going all out to share with its members any fragment of casting information that might be helpful. I can see where this





JIM MARTIN, Pittsburgh, left, uses M88 Winchester 308 for offhand shooting, while **Bill Thomas**, above, prefers Browning '78 in 30-06 (fore-end has been replaced with steel plate to provide free floating barrel). Above left, shooter casts bullets in preparation for Wapwallopen match.



SID MUSSELMAN, Chevy Chase, Md., CBA's match director, right, won the 100- and 200-yd. BR score aggregate.

CAST BULLETS are lubricated, sized and inspected before loading, left. Below, **Bob Sears**, Falls Church, Va., fired smallest 10-shot, 100-yd. group of match, 1.171", using paper-patched 190-gr. bullets in custom 308 rifle.



personal touch will work. As a gunwriter, I can cover to some extent a given subject pretty well, but it's impossible to go into great detail on everything. There's much that space limitations alone prohibit, but this is where an organization such as CBA can take a specific problem and ask the membership to come up with the answer. In fact, I had an opportunity to draw from firsthand experience when I asked Ken Mollohan about determining the hardness of lead alloys.

Several nights before my interview with Ken, my longtime hunting pal Ray Johns and I were cooking up a batch of 175-gr. round balls for his new Thompson Hawken 50-caliber flintlock. The muzzleloader deer season was only a few days off, and Johns wanted to get some practice. In half an hour, we had several dozen balls cast, but to our dismay, they seemed as hard as steel even though I thought my furnace pot contained pure lead. We solved the problem by cooking up a new batch of pure lead that gave the proper results, and it all paid off when Johns dropped a 4-point at 102 steps.

When talking with Ken about this, he dug out a copy of "The Fouling Shot" and showed me where he had covered this problem for the benefit of

the readership. Ken explained that the hardness of lead alloys is a perennial problem for the cast bullet enthusiasts. Commercial alloys of known hardness are expensive, and commercial equipment to check the hardness of economical scrap metals tends to count that advantage by its own cost. According to Ken, a simple and inexpensive test for hardness is reliable.

Drawing Pencils

Any art supply store can provide drawing pencils designated by the hardness of the graphite core, as (from soft to hard) 6B, 5B, 4B, 3B, 2B, 1B, HB, F, H, etc. The range 6B to F will cover most lead alloys, so eight pencils will be needed, plus a piece of fine sandpaper and a soft rag.

Expose about ¼ inch of the core by cutting away the wood without nicking the core. Put the sandpaper on a flat surface. Hold the pencil vertically and draw on the sandpaper with a circular motion to produce a flat end on the graphite. Then gently wipe the graphite dust from the core with the cloth.

With the pencil in a normal writing position, push straight along the length of the lead ingot, as if trying to gouge the ingot with the graphite. If the pencil's core is softer than the lead, the edge of the core will crumble, causing the pencil to skid. If the core is harder, it will dig in or scratch the surface enough to show on close examination. Hardness is rated equal to the hardest pencil which does not dig in or scratch. For example, F will dig into pure linotype metal, but HB will not, which makes it a hardness of HB. Much use linotype is softer and will have a hardness of B since HB cuts and B does not. Pure lead such as Ray and I needed is a bit softer than 6B.

All this may sound confusing, but Ken claims it works and is not that difficult to get on to. I cite this example to show that an organization such as CBA will always have someone who can come up with an answer and a simple way to solve a problem. There's always a way to build a better mousetrap, and I'd guess that practically every handloader or casting fan has figured out some method for licking a touch



SOME COMPETITORS bring their reloading equipment with them, load their ammunition on the line between relays. This lets them adapt loads to current conditions almost as they're observed.

problem. Back in my early gunsmithing days, I had a monstrosity of a drill press that was a nightmare of groaning wheels and flat belts. To me, it was next to junk, but an elderly gentleman who earned for a drill press bought mine for practically nothing. He replaced all the wheels with pulleys and V belts and altered the size of the press. What had been a 300-pound rumbling beast was transformed into a purring kitten that I could have gladly paid a good chunk of money to have back.

At the moment, CBA is depending a good bit on both shoulder-to-shoulder matches and its postal match program. The postal match idea is enjoying the spotlight simply because each participant shoots at his own range and scores his own target. Registered CBA targets that are serialized and dated will be mailed to each participant. The official target has five bulls plus a sighter. The shooter fires two shots at each match bullseye and can shoot any number of shots at the sighter. The shooter then scores the target and mails the score plus technical information and load data to the Director of Competitions prior to the closing date for each monthly match. The shooter is required to keep his or her targets for confirmation if the score is among the winners.

Three Categories

Classes for rifles used in postal matches fall into three categories: Armint/Hunter, with a weight limit of 10 pounds, including sights; Benchrest, 14 pounds with sights; and Open Class, where weight is unrestricted. Sights and triggers are not restricted in any way. Any cast lead or lead alloy bullet may be used, in a fixed cartridge, breech seated, or loaded from the muzzle.

There's much more, but I think this should show CBA is trying hard to please and make room for everyone. Follohan explained that a fixed cartridge is similar to any commercial or reload except that a cast lead bullet is seated into the neck of the case. The American Single Shot Rifle Association



ED HARRIS, Annandale, Va., who supplied many of the photos for this article, uses stabilizer on muzzle of his M788 Remington 30-30 to improve its performance.

carries on the tradition of seating a cast bullet into the bore ahead of the chamber by using a special tool, and then placing the powder-charged case in the chamber. This may seem awkward, but the accuracy obtained by these shooters is astounding.

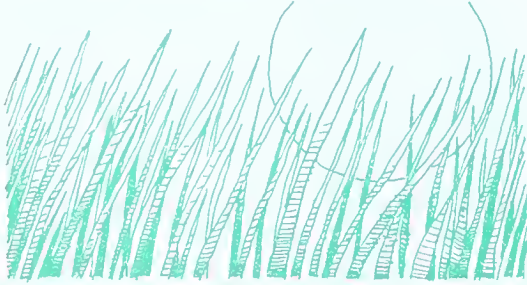
I left Ken's house feeling that CBA has a lot of potential and surely could make the road easier for the beginner. CBA, the beginner is as welcome as no paid officers nor does any money go for expenses other than what it costs to put on shoots and publish "The Fouling Shot." Its main theme is to promote the use of cast lead bullets. Members are not just names on a roll, but are genuinely an integral part of the organization.

There's a sense of accomplishment in casting your own bullets, just as there is in loading your own ammo. The important thing is to become involved. In CBA, the beginner is as welcome as the expert, so, if puttering around with home-cooked lead sounds interesting, get involved. Believe me, it just might open the door to a whole new experience in the world of shooting. For further details and information, contact Mr. Sidney F. Musselman, 5522 Trent St., Chevy Chase, Maryland 20015.

In the wind

toni williams

information writer



The rate of tarnishing of new copper coins is a simple, inexpensive pollution detection technique suggested by a Tokyo engineering instructor. As another monitor, he advises planting spiderwort around nuclear plants; its normally purple flowers show mutations in the form of white petals which appear at a constant rate depending on radiation pollution levels.

The chemical used to fight fire ants in the south, mirex, has been frowned upon by environmentalists for some time. Trouble was, there really was no substitute. An alternative, ferriamicid, is being tested in Mississippi and so far looks good. Less of it is needed than of mirex, and it degrades rapidly.

When is a permit to dump sewage sludge into the ocean a good thing? When it's part of a gradual phaseout program which now lets Philadelphia dump about two-thirds the amount they dumped two years ago. The permit requires the city to continue developing land-based alternatives to ocean dumping, such as composting and application to stripmines. Complete phaseout of ocean dumping is planned by 1981.

New York's Department of Environmental Conservation is selling low-cost packets of shrub seedlings, especially selected for city and suburban areas. They hope to create more habitat for birds and small mammals in their state. They also hope the packets will spark New Yorkers' interest in wildlife.

Regulations designed to decrease lead poisoning in waterfowl by requiring the use of steel shot in heavily shotover areas will be broadened this year to cover all four major flyways. This gradual phase-in has been planned to allow manufacturers to gear up for production of the new ammunition; waterfowlers in some areas had trouble last year locating shells loaded with steel shot.

A Massachusetts bill banning hunting or trapping of bear, bobcat and fisher is apparently dead for now, but state biologists have been asked to study the animals' status and report to the legislature. The state wildlife chief says all three are increasing or stable in population size.

Everyone appears to be profiting when rare Kirtland's warblers nest in Michigan. Loggers are getting jackpine they want; the state is getting a treasury boost from the timber sale on State Forest land, and warblers will be getting more of the young even-aged jackpine they need for nesting. The areas will be clearcut and specially treated to encourage jackpine regeneration. The loss of such habitat has been a big factor in the warblers' decline.

A \$500 reward sponsored by Michigan sportsmen of the Michigan United Conservation Clubs (state affiliate of the National Wildlife Federation) has been paid for the fourth time. The "Poacher Patrol" reward has been paid three times for information leading to the arrest of elk killers, and once for eagle killing information.

May 3rd is Sun Day. A group of diverse interests, from small businesspeople and farmers to environmentalists—many of whom were active in 1970's effective Earth Day—have banded together to promote knowledge about and interest in solar power as an energy source. Some tout its inexhaustibility and virtual freedom from pollution, some its potential for returning energy self-sufficiency to the individual or community. Activities are planned even in often-overcast Pennsylvania cities; watch for announcements.

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1977



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COVER PHOTO BY CHUCK FERGUS

For generations Americans took pride in speed; it was a compulsion with us to "get there first," to have the fastest cars, trains, planes or whatever. But somewhere along the line in the past few years, some nonconformists began asking "Why?" They began to slow down, to take time to look at their surroundings, to appreciate where they were at the moment, not simply to live in frantic anticipation of where they were going. From them we learned that bikes were better than cars . . . and backpacking better than bikes. We learned what it was like to feel tough wild grass under our boots, the satisfying weight of a pack that makes us self-sufficient, the wind on our faces. Now we hear sounds we never heard before, smell fresh new smells, appreciate simple foods. And we know this is better.

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BATF to Register Guns

ON THIS PAGE in the March issue we told how a local lawmaking body made it necessary for law-abiding citizens to register handguns in Cleveland, Ohio. There's now a bigger problem, this one on the national level. On March 16 in Washington, D.C., the Bureau of Alcohol, Tobacco and Firearms announced it is going to set up a national registration system for all firearms sold, with quarterly reports to be required of manufacturers, jobbers and dealers. Such registration proposals in the past have been defeated by large margins in Congress, but apparently the BATF is willing to ignore the will of Congress here. BATF also is proposing a serial numbering system to apply to the entire firearms manufacturing industry, claiming this will cost the industry only about \$5 million for personnel to begin with.

Neal Knox, executive director of the NRA's Institute for Legislative Action, stated: "When the 1968 Gun Control Act became law, Congress voted down amendments to create a computerized central registration of firearms. Now the federal gun control bureaucracy—the Bureau of Alcohol, Tobacco and Firearms—is telling the American people that it intends to take that authority anyway. . . . This could cost taxpayers many millions of dollars and will do nothing to prevent crime. The very idea that the Treasury Department's gun policy would take power denied by our elected representatives underscores an arrogance and abuse of authority which has marked virtually all of BATF's activities."

Ohio Congressman John Ashbrook, ranking minority member of the Subcommittee on Crime, said: "A broad sweeping plan for gun control is being pushed by a federal agency without the consent of Congress. . . . Its proposed rule making will require registration of all guns—handguns, shotguns and rifles. The agency will spend millions of dollars each year for a federal police force to enforce its registration scheme. . . . The Bureau of Alcohol, Tobacco and Firearms admitted to the Subcommittee on Crime that their plan will take effect in 60 days. . . . This is another attempt to subvert the will of Congress by avoiding the legislative process. . . . If this federal agency is permitted to initiate its program without complaint, all hunters, shooters and arms-bearing private citizens will be subject to the ultimate danger of gun confiscation. . . . Under the guise of stopping gun traffic, the agency claims to follow its own seriously flawed efforts to curtail handgun crime. That project, Operation CUE, attempted to show that in selected cities where large-scale federal police enforcement was attempted, the crime rate went down. Actually, the BATF experienced more crime in those cities than in comparable ones across the nation. This failure cost the taxpayers \$8 million. . . . This country is not ready—and I hope will never be ready—for an enlarged BATF big-brother police agency. Every citizen who believes in his security and the private use of his firearms should let his opinion be heard immediately."

Comments on the March 16 proposed rule making should be sent to: Rex Davis, Director, BATF, 1200 Pennsylvania Avenue, NW, Washington, D.C. 20026. Final day for public comment is May 15.—*Bob Bell.*



To Take a Turkey

By Rev. George Harting



THE SPACIOUS showroom was crowded; spectators by the thousand had gathered to get a look at the numberless—and sometimes nameless—items the manufacturers were peddling for the fraternal fans of the out-of-doors. The din from the crowded room was unintelligible, with one exception: from several locations of that huge building came the unmistakable amplified call of a hen turkey. The management had spaced with discretion the callers whose aim was to convince visiting hunters that this particular call was the “best” tool to take a turkey.

Like boys, turkey calls come in all shapes, sizes and forms. They are sucked, blown, scraped, shaken and plucked. My first exposure to turkey calling was listening to a veteran use a wingbone; the most humorous exposure was happening upon a woman standing in the woods under an umbrella, sucking her corncob pipe caller—a modern version of the wingbone. The most fortunate of all was a friend who, when let out of the car on opening day, announced: “I forgot my call.” He entered the woods, and by quitting time had lured in and bagged the only bird for the day—using only his vocal cords as a call.

Best Call?

Which is the best turkey call? That’s like asking which caliber is the best deer rifle. In my opinion the old-timer had the answer for both questions: “The one you can use most effectively.”

A challenging newspaper article appeared in the early days of my hunting career. Two successful hunters were shown with their gobblers, and the caption read: “These hunters will have good eating for Thanksgiving Day.” On the day that article appeared, I vowed to take a turkey. My efforts began promptly but, unfortunately, my campaigns terminated with little success. To call in a bird, I reasoned, was visionary, a wild exercise for the sophisticated city hunter who is long on theory but short on experience. For too many years I operated on the theory a gobbler could be booted from the brush as one does a grouse or a cottontail. Need-

less to say, success was nil those days.

One November day, fortune placed me on a mountain flat surrounded by a flock of birds that had been “busted,” but which scattered into the cover by foot rather than flying to the next ridge. They were calling and I attempted to stalk them. Unfortunately, when five birds flushed I was caught helpless as I was carrying a rifle. I failed at that time to understand that the birds were ripe for calling.

Long-Pants Suit

Into my life one day came a compatible professional superior. As we dined, he noticed the whitetail shoulder mount, and our conversation shifted from the afternoon duties and my wife’s menu to the out-of-doors. Jim’s “long-pants suit” was calling turkeys, and his genial manner and benevolent spirit hinted a tutor might be available for the art I hoped to master.

Next fall Jim invited me to go with him to the northcentral counties for turkey. I had, by that time, obtained a box call and used it without confidence for I found it awkwardly bulging my pocket and squawking noisily while I stalked. Jim held to the calling tool he had used since his youth, a half coconut shell and a slate. The rig did not simulate the sound of the birds I had heard from the scattered flock on that flat so long ago, but since he bagged his bird yearly, I was in a poor position to knock it.

Each evening the hotel accommodations up north became a noisy center as the day’s tales were told and each hunter demonstrated his art at calling. Especially impressive were the mouth diaphragm calls; they sounded genuine, and to have the hands free to use the gun as one called seemed advantageous. I got one and learned, unfortunately, that calcium deposits on my palate rendered the unit useless. The alternative was to simulate Jim’s device. A coconut was bought, cut, sanded, drilled and put to use, but it spoke with an accent. When, however, one day I exchanged the common roof slate for a fragment from a blackboard stone, progress was made in approaching the vocal quality and tone of the

scattered birds I heard some years earlier. Despair was exchanged for determination.

The 1973 opening day for spring gobblers came. The location was Horse Valley in Perry County. The plan was to mix some trout fishing with hunting, and since I had, to that date, been unsuccessful in coaxing a bird to answer my call, we counted heavily on some action from the stream and scheduled fish for the table.

The week wore on without event. Even Jim, the "professional caller" who joined us, struck out. Friday morning was quitting time, vacation time was about over and chances for success seemed slim. Burkey, my companion, shared my ideas for the morning, and as we retired a handshake sealed the deal for the next day's success. My urge was to scan the west side of the valley. Carefully I marked a fallen tree which would allow me to bridge the brook and proceed up the gentle incline of the mountain. The next morning I slowly made my way through the timbered area and took a stand for a minute. The slate was sparingly stroked with what I considered at least a reasonably good

imitation of a lonesome hen turkey.

Apparently it sounded genuine to the gobbler, for as I passed the slab pile, a decaying remnant from lumbering days, a thunderous gobble filled the valley. I had moved to the edge of the cutting where a gentle ravine channelled to Horse Valley Brook the runoff from a mountain winter spring. Beyond the rivulet the ascent was abrupt and led to a thickly populated flat supporting oak and maple saplings. It was in this area that the gobbler had taken shelter for the night. His response marked my first success in attracting the bronze monarch of the mountain. To say my pulse beat with excitement and hopes were high is a conservative appraisal of the affair.

The resounding gobble filled the valley. It was apparent the bird was roaming the ridge. Calling was done with conservative repetition, and suddenly it became conclusive that my call was the object of the gobbler's affections. He had cut in half the distance that originally lay between us.

A major problem lay in the fact that clean lumbering had denuded the area of all waste cuttings, forcing me to use

THE BIRD ANSWERED MY CALL, turned in his tracks, and I watched with fascination as the gray head turned red. I lifted my gun . . .



three six-inch maples as my only concealment. Scarcely had I settled behind the crotch of the hardwoods when the dark form of the gobbler was sighted moving down the incline toward me. I was hugging the ground and feared my heartbeat rang like a bell. Could it be possible that at long last I had been successful in attracting the elusive wild turkey? I dropped the call and hugged my 12-gauge. His course was direct, his intent clear. He moved without hesitation, head down, directly toward me.

His beauty was unbelievable! This lordly bird crossed the spring flow, walked into the grass of the chopping, and then, in full view, lifted his slim head and neck. Each feather glistened in the morning sunlight. As he sounded a warning chirp, a second gobbler, not ten feet from the first, appeared. I had suspected a pair, for the gobblers had been too repetitious and the sequence too closely spaced for a single.

I appraised the birds at 60 yards and kept my cool, knowing the range was too great for a 2¾-inch maximum load. A closer shot was anticipated, but suddenly the lead bird decided my khaki coat was not part of his environment and, instantaneously, both were gone. The morning hunt ended without a trophy but with indelible memories of the two birds still in the bush. Morale had a much needed boost, however, and a resolution guaranteed that, should I enjoy another spring hunt, a 3-inch Magnum would be my companion.

Fortune favored us, and we were back in camp for the first week of the '74 season. It was an exciting year. At the first call on Monday morning, three gobblers still on the roost above us and a fourth in the remote valley below responded. An old raccoon lumbered by me into the direction of the roost and ended that encounter, one so exciting that the veteran Jim responded, "My glory," to the chorus of gobblers.

On the bitter cold and frosty Wednesday morning of that week, two birds responded from the valley below, while a third on the ridge above commanded our attention. We blew that offering with exceptionally poor strategy. Friday morning, our last day to hunt in '74, found us on a pine ridge, and very

promptly a big gobbler was sighted at 35 yards. He had come to the call without "a mumblin' word." With the excitement of the moment governing my actions, I dropped the call to grope for the Magnum beside me. That was enough. The bird was gone! That season offered responses from eleven separate gobblers, but only progress could be reported.

Seclusion . . . and Rain

Who could resist the challenge? The opening of the '75 season found the three of us back in camp. The opener usually offers little chance for skillful encounter; too much activity exists. Our anticipation was for the quiet seclusion a Monday morning brings to the big timber ridges. The day arrived and so did the rain, which continued as morning drizzle. It was 8 a.m. before I occupied the razorback ridge east of the valley. After an hour of careful and repetitious calling, I moved to a lumbering trail that led to the fields. I had had it and estimated it would be quitting time when I reached the valley.

I stopped at the top of the trail to call and was rewarded by an answer from the distant valley. It was a single gobbler, and the assumption that some other excitement apart from my call stimulated the bronze male prompted me to move on. I offered an occasional call and had written off the morning as I reached the road that shunted from the trail leading to where my car was parked.

One more try, I thought, and to my amazement an answer broke the silence from the ridge I just had left. We passed as the bird moved toward the ridge and I moved toward the valley. A search for concealment was the order for the moment; it was found behind the massive root system of a fallen tree. Presently the gobbler was sighted moving down the same trail I had used. His movement was leisurely but alert. He fed from the trail, then stretched his neck to make sure of his environment. "Keep coming!" I muttered. He did until, within 60 yards, he felt he had had enough of that elusive female and turned into the woods to my left. I watched his dull white head bobbing



THE MOVEMENT of my hand did not fit his idea of a lady-love. He turned, ran head down for ten feet, then, with two flaps of his monstrous wings, was out of sight.

away. In moments it would disappear.

Desperation seized me. Had I blown it again? As an acquaintance of mine puts it: "Something had to be did." I struggled through my huge pockets for the slate and chalk. It required an upside down position of the slate to chalk it in that drizzle, and I was confronted with the chore of creating three acceptable yelps in that awkward setting. It worked. The bird answered, turned in his tracks, and I watched with fascination as the gray head turned to blood red. As he lumbered back into the trail, my Mag loaded with number 6 shot dropped him at 45 steps.

"After twenty-four years, you did it!" I exclaimed.

I hurried to claim my prize. Weighed later, it went 19 pounds and sported a 9½-inch beard, one of the greatest trophies of my hunting career.

I met Jim and as he entered my car for the drive home, he asked: "Did you hear any birds, or any shots?"

"Matter of fact, I did."

"Where?"

"Oh, back my way," was the response.

Quickly I diverted the conversation

to inquire about his success. After a twenty-minute ride we picked up Burkey and only then did I open the trunk and display my first gobbler.

"You held out on me!" Jim said excitedly.

State champion callers gathered that afternoon to get the details. It was flattering to know they were having their share of trouble getting responses while the novice had scored.

It could not have happened more dramatically. It was the campaign I planned, I did the calling with my own crafted tool, I schemed the strategy and fired the shot. After 43 years of campaigning, this was the hunting event that rated top priority for personal satisfaction.

What could a future encounter with wild turkeys offer that could be more notable than success? Fortunately, each adventure furnishes its own compensations for the involved, and it was just that way back in the same valley in '76. The first week of the season was dull; only one gobbler responded to calling and he never took the time to look us up. On three consecutive seasons I had been able to call in the big birds and now the prospect of failure was haunting.

Last Possible Encounter

Our last possible encounter would be Friday morning. The place selected was the same valley which had proved productive in other seasons. Rain fell during the night and an intermittent drizzle continued throughout the early morning. We left the car, and as my partners proceeded to their areas, I searched for a natural bridge to cross the brook. Immediately upon crossing, I sounded the call and was surprised to hear a gobble which originated easily quite some distance up the ridge. Doubts arose that my call had inspired that answer, but I responded. Time and again the bird gobbled. He answered a noisy tree toad, he scolded a passing jet, and gradually I sensed his response to my calling.

Time was taken to assess the mountain setting. The bird was up from a deep gully that channeled the spring thaw to the valley stream. I slowly and

quietly moved to suitable cover and began to call. All worked well. Each time the bird answered I was able to determine his location. Eagerly I awaited the next gobble. It was not forthcoming and despair descended. But at long last the awaited response occurred and I glued myself into a motionless position.

Time passed endlessly. I wondered whether my call possessed any characteristics that would interest a gobbler. Too much calling was ever my fear, but I stroked the slate again. The quality of the answer indicated the gobbler was close.

Within an instant, his approach was visible. Contrary to all the rules of the experts, I stroked the call again. It worked! Right there he awarded me with a deafening answer. His appearance had all the characteristics of an old mountain monster. He was huge, gray-white in color; he moved on tall stilt-like gray legs, and furred only half a tail. This he fanned repetitiously after advancing each six to ten steps. The supreme mark of his age and cunning was his cautious alertness and slow advance.

The morning rain and intermittent

sunshine had stirred up the black mountain gnats, and they swarmed like bees, chewing me to shreds. Most cautiously, I moved my hand to dislodge the parasites from my sweatband, taking special precautions to conceal the movement behind the two large oaks. Instantly the head of the bird shot upward. The movement of my hand somehow did not fit his idea of a lady-love. He turned, ran head down for ten feet, then, with two flaps of his monstrous wings, was out of sight behind some trees.

At this point a clergyman is inclined to suggest that a layman should say something appropriate. After consulting my watch it became apparent the encounter between the hunter and the hunted had involved an hour and a half. I found considerable consolation in the fact that with my quarry clearly in sight, I had persuaded that veteran of many seasons my call was indeed "for real."

It would be difficult to decide whether it was the success of '75 or the consolation award of '76 which should be rated as a superior performance. Both were highlights of my hunting career.

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IF YOU HAVE TO WALK through a barnyard or near animals, open your gun or take out the shells. This will remove temptation should a bird flush unexpectedly.

Are You Wearing Out Your Welcome?

By Howard Mortimer

WHEN I CAME past Bartley's farm this morning, I noticed a batch of new No Hunting signs. He'd been having trouble with careless hunters, and I suspect they finally got the best of him. There hadn't been any really big trouble, just the kind of incidents that disgust any real sportsman. Last winter, for example, Bartley had asked me to come over for a few minutes. Someone had killed two deer, both does, on his upper pasture. They had been shot within twenty yards of each other and left where they fell. It was a senseless act and the kind of brutal thing that non-hunters like Bartley soon begin to associate with all hunters. Sure, deer cause some damage to his crops, and he thinks there are too many of them, especially in farming areas. But he is also a decent, honest man, and there is something about killing animals and letting them lie to rot that strikes at the decency of most people.

Then this spring when he went out to put in his oats, someone had the access road to his lower field blocked. He was

so mad he wanted to hook a chain to the car and move it, but I talked him out of that. We pulled a couple of stumps to the side, and with a little effort we were able to work the tractor and grain drill past the parked car. In all, he probably lost only about an hour of planting time, but it was an hour he wouldn't have lost if some hunter had been thoughtful enough to leave the road open in the beginning.

Then last week he was hopping mad again. Someone, apparently using a 4-wheel-drive vehicle, had cut several ugly ruts through his clover field. Bartley was convinced it was done by someone spotlighting deer. He couldn't prove it, but he knew the ruts weren't there Wednesday afternoon, and he found them Thursday morning. That, combined with the fact that archery season was only a few days away, was all the proof he wanted.

If hunters realized what trouble they can cause themselves, they'd be more careful. Most of the time they don't do anything malicious. They just don't al-

ways think before they do things, and that's what bothers most farmers. Too few hunters have any idea what farming is all about. Sometimes, even when they are trying to be good neighbors, they cause problems, like the young fellow who hunted my place a couple weeks ago.

"I noticed your lower pasture gate was open so I closed it for you," he called over to me as he was getting into his car.

I waved, but he was already in the car so I didn't say anything. What's the use? I thought. Of course the lower pasture gate was open. I had made a special trip down there at 7 o'clock that morning to open it.

Not Too Angry

I didn't feel too angry. At least this fellow was trying to be helpful. Too many hunters weren't. Anyway, closing the gate only meant I would have to make another trip down there to open it again. That was better than having someone leave a gate open when it should be closed. That's been done too many times. Then I have to spend half a day chasing cows out of the cornfields and back into the pasture. And sometimes the time I spend isn't the only thing I lose.

Three years ago someone left a pasture gate open on the first day of small game season. I don't know who it was because I had given many people permission to hunt that day. By the time I found the open gate, all the cows were in a freshly picked cornfield, gleaning the ears of corn the picker had missed. All but one, that is, a prized heifer. She had found a big ear and choked on it. She was dead.

What most hunters fail to realize is that farmers have gates in fences because sometimes they want them open and sometimes they want them closed. Most farmers have their pastures divided into several sections so they can "rotate" them. When one section becomes overgrazed, they move the cows to another section and let the grass grow on the first one. Then in the fall when the grass in all the sections is getting short, they often open the entire pasture. When someone closes a

gate, he traps the cows in one section of the pasture and the farmer has to go out and release them before they can get back to the barn again.

But gates aren't the only problem. Fencing is a constant headache for most farmers. Wood fencing requires constant painting and replacement of the posts and boards. Barbed wire must be stretched tight if it is to be effective. Electric fences short out when weeds or tree branches touch them. Chain link or heavy wire mesh fences are just too expensive to be practical on most farms. If the average hunter could spend even a few days on a farm helping to repair and maintain fences, he would see the difficulty the farmer faces, and he would likely treat fences with more respect. Too many hunters try to go through a four-strand barbed wire fence by tramping down the bottom two strands and pushing up the top two. I've seen others take off their jackets and toss them over the top strand of wire. Then they throw a leg over the fence and ride it down as they slide over it. When they are over, the



SAFETY ZONE signs indicate buildings nearby. Respect them unfailingly, or an entire farm now open to hunting might be posted next year.



LEAVE ALL GATES as you find them. Even if they look unused, they have a purpose. Sometimes the landowner wants them open, sometimes closed.

fence has a permanent sag. To repair it, the farmer has to set a new post to take up the slack.

Many hunters like to work through fencerows for rabbits and ringnecks. In doing so they often turn over a lot of brush which has been cleared off fields. I doubt if any farmer would mind that kind of hunting if the hunter would be careful. But too often in their enthusiasm to tramp out the rabbits and turn over the brushpiles, they throw branches up against an electric fence. That shorts out the fence and knocks out the warning light on the fencer back in the barn. When the farmer sees it, he has to stop whatever he is doing and "walk the fence" to see where the problem is. It's a small harassment, but it is one that could easily be avoided.

Another Problem

There's another problem that could just as easily be avoided. Many hunters hate cats; if not hate, at least dislike. Cats kill young rabbits and pheasants. Therefore, when a cat is out in the field, some hunters reason, she must be killing rabbits. It seems like perfect logic, but what these hunters fail to

realize is that there are no baby rabbits during hunting season. All of them are grown, and I could count on one hand the number of times I've seen a cat bring in a full grown rabbit. When you see a cat hunting in the fall, she is hunting chipmunks or mice or rats. All of these do a great deal of harm around farm buildings and cost the farmer money. Scientists tell us that one full grown rat is capable of eating and contaminating up to \$10 worth of grain each year. If you multiply that figure by the hundreds of rats, mice, and chipmunks that would infest a barn without cats, you can begin to see why farmers keep cats. It's not that they are all cat lovers. Cats are a necessary fact of farm life. They do their job or they don't stay around long. Ask any farmer. He'll be able to tell you which cats are his best mousers. I know mine, and I can point them out with pride. Yet, every fall I lose two or three of them. When I locate a dead one, I always examine her carefully. Most of them share the same illness—lead poisoning.

Many hunters fail to recognize the investment a farmer has in his animals. To most people a cow is a cow, but to a

farmer a cow is an investment of hundreds of dollars. That investment must pay off if he is going to make a living from his farm. That is probably why we feel a little nervous when we see a hunter walking too close to our animals. We want to believe that all hunters are safe, conscientious sportsmen, but we can't help wondering what would happen if a big ringneck were to fly out of one of the clumps of grass in front of them. Would the hunter remember the animals? Would he hold his shot until absolutely sure he could shoot safely? Every hunter likes to think he would. Every farmer hopes he would.

Even when the hunter makes his kill and does it safely, another problem arises. What does he do with the game? Most hunters take their deer and ringnecks and rabbits with them. Very few take woodchucks home to eat. Yet very few hunters know how to dispose of them properly. Some hunters just let them lie in the field where they were killed. It never seems to occur to them that someone may have to run over a half-decayed woodchuck with a mowing machine or that a baler may pick up the remains and pack it into a bale of hay for the farmer to handle later when he is feeding. Some hunters like to hang dead chucks over fenceposts. That can create an ugly situation if the farmer needs to repair his fence near that area. No one likes to work around half-decayed animals and no one wants the job of burying the decaying remains of animals someone else has killed. A little thoughtfulness eliminates the problem.

Welcome Hunters

The hunters who are welcome to come back and hunt year after year are the ones who dispose of their game properly. For woodchucks, the best way is to drop them back into their holes and kick some loose dirt in on top of them. It takes only a few minutes, and it helps insure that one of the farmer's dogs won't carry it back to the house. It also insures that the remains won't be picked up by a baler.

Some hunters object to disposing of woodchucks that way. They say it keeps other chucks from adopting that hole as their new home. I can never see why it is important for another chuck to adopt a particular hole unless the hunter is trying to set up a shooting gallery arrangement so he'll know exactly where to look for the next target to pop up. Certainly he's not worried that some poor woodchuck might be left homeless.

Decent Fellows

With all these problems, I sometimes wonder why I continue to let people hunt on my property. Maybe it would just be easier to be like Bartley and stop all hunting. But I don't think that way very long, because I know the answer. Ninety-nine percent of the hunters are decent fellows. They're the ones I welcome back year after year, the fellows who stop at the house in the morning or call a day or two in advance to see if it's okay to hunt. They are the fellows who respect my buildings and hunt a safe distance away from them, even when they know in their hearts that the biggest ringneck in the county must be sitting right next to my cow shed. They are the fellows who let my cats alone even if they're privately convinced they can't find any game because of "those darn cats." They are the ones who respect my fences and walk around them to a gate rather than break them down. They leave the gates as they found them, whether open or closed, because they know that is the way I want them. They take their game home or dispose of shot-up chucks properly so I don't run across a half-decayed carcass later. They stop at the house at the end of a hunt to tell me about a downed fence or a loose gate latch. In short, they are the fellows who treat my property as though it were their own. Most of them are a pretty great bunch of guys, and that is why I continue to welcome them back year after year. That is why they'll never wear out their welcome.



A Gobbler for Mr. Jim

By Bob Clark

HOW MANY people in their 70s do you know that enjoy getting up at 3:30 a.m. to go spring gobbler hunting? I'm lucky enough to know a couple of them, Jim Ross, 71, and Charlie Piper, 72. My dad Walt, at 67, is a bit younger but still falls in their age group, I guess. Anyway, they were part of the group that took part in the hunt I'd like to tell you about.

To set the stage, we were in Jim's camp near Medix Run in Elk County. Medix Run is one of my favorite places, but not what anyone would call a large town. If I counted correctly, one hotel, one store and seven houses make up all the permanent buildings there. Jim was born in Medix Run, grew up there, and knows every inch of the surrounding area.

We would be hunting the Quehanna Wild Area. This region of over 500,000 acres is owned mostly by the Bureau of Forestry, Department of Environmental Resources and the Pennsylvania Game Commission. Many of the oaks had been killed by the oak leaf roller several years before. However, enough survived to produce a good mast crop during the winter.

The balance of the group was formed of Will Johns, public information director of the Fish Commission; John Plowman, past president of the Pennsylvania Outdoor Writers Association; Dale Rohm, a seasoned turkey hunter; Robby Rohm, 1976 Pennsylvania turkey calling champion, and his brother Terry, National Wild Turkey Federation calling champion.

We arrived in camp about 4 o'clock on Saturday afternoon, April 30, the opening day of Pennsylvania's spring gobbler season. Our plan was to get in a

little trout fishing that evening and be up early to scout for some gobblers. We'd divide into two groups to cover more territory. Morning broke with a beautiful dawn and we were ahead of the sun by a good half hour. As the small birds began to sing and deer continued to move into their daytime sleeping quarters, we made our first "owl hoot." Our first attempt resulted in a booming *gobble, gobble, gobble*. We had found our first gobbler and hadn't even really gotten started. Terry felt good about that. "We can get him in the morning, if no one bothers him today," he declared. We quietly left the area and walked to our vehicle.

As we crossed the flats, we decided to drop down on one of the gas line roads and visit another part of the Game Lands. We were moving down the road when Terry looked up and yelled, "Look, there goes a bear!" Talk about luck—it was the first bear I ever saw in Pennsylvania, and I know I'll never forget it.

We were unable to raise any answer to our calls at the new place, so we moved to another area. Farther on out the flats, we saw many deer, and around 6:30 we made a last ditch effort to locate another turkey. Terry gave the "hoot" and again, from not more than 300 yards away, came a loud gobble. So we had two located. We wondered how the other group was doing.

We arrived back at camp an hour later and started to prepare breakfast—homemade sausage, farm fresh eggs, pancakes, orange juice, coffee and toast. You can guess what happened next—Robby and his group came back just in time to find a hot meal all prepared and the table set.

They, too, had located two gobblers, and one was definitely an old "boss gobbler." It was decided Robby and Jim would try for him; Dale would go after the other. Terry would take John to the first one we found, and I would take my dad and Charlie Piper for the fourth.

JIM ROSS, 71, with the 19½-lb. "boss gobbler" that Robby Rohm, 23, Pennsylvania turkey calling champion, brought in for him. "It was a perfect calling job," Jim said.

None of us had trouble getting up at 3:30 the next morning. We grabbed a quick breakfast of juice and toast with coffee and headed for the woods. As we drove up the mountain, I had to slam on the brakes to keep from hitting four deer that darted in front of us. Game was moving. We arrived at the drop-off point for Terry and John, and then Dad, Charlie, and I headed for the back part of the flats.

As we sat there in the darkness waiting for our world to come alive, we felt a deep appreciation for the woods and wild game in it. After the harsh winter we'd had, we were amazed at the tremendous amount of game—grouse, woodcock, turkeys, and especially deer—we had seen in one short day.

Three Shots

Well, as it turned out, my bird did not answer the call. After working out the area and hearing three shots in the distance, we started back to meet Terry and John.

When we arrived at the spot, John was lying under a tree, either praying or crying. What a story he had to tell. With over a half million acres of forest in front of them, they had walked almost right under the tree in which the gobbler they were after was roosting. They accidentally got within about 55 yards of the bird. Anyone who has hunted turkeys will quickly tell you that is not the position to be in. Pennsylvania's law clearly states that you may take spring gobblers only by calling. As they watched that old gobbler strut back and forth on his limb, their anticipation grew stronger and stronger. Terry had to make a call; but which one, and when? No cover was available for concealment and old "Mr. Tom" looked them both right in the eye. Terry gave a few short, soft yelps, and went for the gobbler. *Bang!* Off he flew. *Bang! Bang!* John hurriedly backed him up. Off went the turkey. They were done for the day.

Meanwhile, on the other mountain, things were different. Robby had found his "boss gobbler" right on target and after several hoots decided he and Mr. Jim had to go down the mountain and up the other side. No easy task for a

man in his 70s. "Do you think you can make it?" Robby asked Jim.

"I'll make it if it's the last thing I ever do!"

They moved about 200 yards and Robby started to call. The gobbler answered, then slowly started to move toward them. He came, he stopped, he looked, he gobbled. He puffed up his feathers and fanned his tail, he looked some more, he moved. Closer, so very silently he came closer. Then a gobble. And then he appeared like something in a dream, 35 yards in front of Mr. Jim, strutting like a movie star.

The shot rang out, the old bird collapsed and rolled right down the hill, Robby up and running headlong after it through the laurel, the rocks and possibly over a rattler, who would never have a chance to hit him at the speed he was going. It is wise to immediately go after your bird, no matter how well you think you've hit him, but there was no problem with this one. His momentum took him to the bottom, but it was all over for this old boss gobbler.

The look on Jim's face at 71 years of age, mirrored on the 23-year-old State Turkey Calling Champion's, is something that money will never buy. Mr. Jim had killed many turkeys in his time, but to hear him tell it, "This was the most perfect job of calling and hunting of the Pennsylvania wild turkey that I've ever witnessed." Someday, Robby Rohm will probably duplicate the moment when he, too, goes for a spring gobbler in his 70s.

We continued our hunt throughout the week, and with the help of Dale, Robby, and Terry Rohm, were able to collect several more gobblers. Although John Plowman did not get his gobbler this week, he did keep us supplied with fresh trout from Medix Run. Considering that the season was over a month old and the trout were pretty well spooked, John did justice to his reputation as a trout fisherman.

Well, they say you can't teach an old dog new tricks, but it seems safe to say Mr. Jim learned there are several young turkey callers who can continue the tradition of Ross Lodge in Medix Run, Elk County.



THOSE WHITE SIGNS near the house and barn and the red-and-yellow ones near the pasture don't mean the entire farm is closed to hunting.

The Land Lender

By Dave Lyle

P.G.C. Farm-Game Manager

“HEY, BILL, stop the car! This looks like a good spot—look at those cornfields with the brush rows between ’em . . . Should be lots of birds in there. Probably some rabbits, too. You get the guns, and I’ll open the back and let the dogs out.”

Sound familiar? How many times have you gone hunting, and stopped somewhere and hunted just because it looked good, or because it’s been a favorite place for years?

Did you ever stop to think that someone owns that land you’re hunting on? “Well,” you say, “it wasn’t posted, so who’ll care?”

But what about those white signs near the house and barn, or the red-and-yellow signs near the pasture? Maybe this place is posted after all.

No, it’s not, but you may very well be hunting on land belonging to a Farm-Game cooperator.

“A what?”

Well, let me explain what a Farm-Game cooperator is, how he became a cooperator, and how the Farm-Game program benefits not only him, but also you, the hunter.

A Farm-Game cooperator is the owner or lessee of a piece of land suitable for public hunting who has made a written legal agreement with the Pennsylvania Game Commission to keep his property open to public hunting. Currently, over two million acres of land are kept open to hunting through this program.

The Farm-Game Program was begun in 1936. It has two main purposes: to protect farm residents and property against acts which no good sportsman would countenance, and to open more land to public hunting. The Game Commission for many years tried to find the best method of creating



EVEN WHEN most sportsmen's thoughts are far from hunting, Farm-Game managers and game protectors are visiting farmers and listening to any complaints they might have about hunters.

friendly relations between hunters and farmers, realizing that the sport of hunting on agricultural lands depends on safeguarding the right of every farmer to a peaceful existence and on protection of his land, crops and livestock.

It should be apparent by now that most No Trespassing signs are posted because of thoughtless acts or outright vandalism by one or a few persons. The ever-increasing number of these signs means that many hunters—most of them innocent—are losing prime hunting areas. The Game Commission spends many man-hours trying to avoid this, not only through law enforcement, but also through public relations. Our hunter education programs stress courtesy and consideration for the landowner.

A Farm-Game project area encompasses a contiguous group of farms or

other privately-owned land suitable for hunting. Each area must contain a minimum of a thousand acres. Each farm is given a number, and a map is maintained showing the property lines, houses, barns and other protected areas of each farm. Each property with buildings on it is posted with safety zone signs reading: "Hunting for or disturbing game or discharging deadly weapons within 150 yards of occupied buildings or other farm buildings is illegal except by specific permission of the owner or tenant thereof."

These signs mean exactly what they state. The penalty for violating this law is \$25 and cost of prosecution. This makes the safety zone very important.

Read Signs

You may also see other signs near cattle areas, bordering tree seedlings, or near unharvested cornfields or grain crops. Take time to read these signs and plan your hunt accordingly. These crops are the farmer's paycheck for the rest of the year, and hunters driving on these fields or walking through the grain can cause him to remove his land from the Farm-Game program. Respect his personal property as if it were your own.

During the year when most of us are far from hunting thoughts, an employee of the Game Commission—the farm-game manager—works as a public relations man with each of the cooperators. He and the local game protector and area land manager visit these farmers, listen to any problems they might have with hunters and try to resolve as many of their complaints as possible.

The farm-game manager and the cooperator mark areas near fields to be cut as woodland border cuttings. During winter, members of the food and cover crew do the actual cutting. Here is "instant food" in the form of browse for deer, rabbits, etc. Border cuttings also make good nesting areas for other species in spring. These areas are usually cut again in five or six years so they don't grow too high to be useful. The Commission also helps convert "waste" spots into valuable corners by furnishing various young vines, shrubs

and trees which provide food and cover for wildlife.

So you see, the land on which you may be hunting is more than "just land." It is a delicate triangle made up of the landowner, the Game Commission, and you, the hunter. When all three work together we have a good place to hunt—but more important, a good relationship with our fellow man and his surroundings, and that's one of the valuable intangibles.

We realize the vast contribution that the rural landowner, whether active in the Farm-Game program or not, provides for our million-plus sportsmen each year. We realize that problems still occur each hunting season, but we are doing the best we know how to curb these problems. With the continued cooperation of landowners and the sportsmanlike conduct of those who use their lands, we hope to achieve our goal.

Farm-Game cooperators in two northwestern counties who have been in the program for several years participated in a survey about how the program was working. Here are the results:

Do most hunters obey the Safety Zone signs? *Yes, 75 percent.*

Are you satisfied with the Farm-Game program? *Yes, 98 percent.*

Do you take advantage of the seedling program each year? *Sixty-two percent do some planting each year. The remainder either have no room for plantings or are at an age where tree planting would be difficult.*

Do you buy a hunting license, even though (as a farmer) you may hunt on your own property without one? *Yes, 80 percent.*

Do you have children at home who hunt or trap? *Yes, 80 percent.*

Do you know your game protector, and how to get in touch with him if you should ever need his help? *Yes, 85 percent.*

Out of ten hunters who hunt your land, how many stop to ask? *Ninety percent said no one stops to ask; the rest said one or two out of ten ask first.*

Do you leave any food for game in the winter? *Nearly all said they leave some crop around the edges or put some sort of grain or feed out during winter months.*

What percentage of hunters do you feel are true sportsmen? . . . slob hunters? *The majority of hunters were seen as good sportsmen by 82 percent of cooperators; 18 percent felt pressure from slob hunters.*

Have you (in the last 5 years) had any personal damage to your property that you would attribute directly to hunters? *No, 89 percent. For the rest, the most common problems were cut fences, gates left open, driving on wet fields, unharvested corn and other crops tramped on, and littering. Some problems with tree stands built in valuable trees are cropping up more and more.*

Do you enjoy the GAME NEWS? *Yes, 100 percent.*

What is your favorite column? *"The entire magazine" rated with 95 percent; 5 percent said they'd like a column on trapping. Almost everyone indicated a strong liking for Field Notes.*

Some of the most common additional comments concerned: —*restricting the amount of time for deer spotting.* —*stiffer penalties for poaching.* —*stocking pheasants in spring in pairs or groups, so they could be enjoyed all summer, perhaps with broods.* (There are many good reasons why this is not done.) —*the large number of free-roaming dogs destructive not only to wildlife, but also to farm animals.* —*appeals to hunters to help the farmer patrol his property during hunting season.* (Being a SPORT and reporting violations you may witness might be the very act which keeps that farm from being closed to hunting.)



RED CLOVER



ELDERBERRY



WILD ROSE



Don
T. Bergamot



WILD BERGAMOT

DEC B. LM

Wild Teas of Pennsylvania

By Craig J. Cameron

RECENTLY there has been much interest in the collecting, preparing, and eating of many wild plants and flowers. As an outdoorsman, I was intrigued with the fact that many of those old weeds I passed through or walked over while in the field could be eaten. I went to my local library and checked out a few books on the subject.

I discovered that many edible wild plants and flowers could also be made into a variety of tasty teas. Wild teas seemed simpler to prepare than many of the plant foods, so I decided to try some of them out first. After a few tastes, wild teas had me hooked! I began collecting, drying, and storing my favorites and now have jars of dried wild tea leaves and flowers in every cupboard of the kitchen. Listed below are a few of the ones I have tried, with methods of preparation and storage. If you take up collecting, you'll soon find out that wild teas not only taste good but are also fun to look for and gather while tramping in the woods and fields. It's also an unusual hobby that the whole family can enjoy together.

A very easy tea to begin with is made from the common red clover flowers (*Trifolium pratense*) that can be found in many fields, hedgerows, and waysides from spring to late fall. Take the flower heads and clean off any of the green leaves that may still be attached. Place the heads in a paper bag punched with a few holes and hang them in a dry place. Your clover tea will be ready for tasting in about a week. Put a few dried heads in a tea ball or infuser. Boil some water and drop in the tea ball. Steep for two to three minutes and sweeten to taste—with clover honey, naturally. Clover tea has a mild, refreshing taste. To store clover tea, make sure all the flower heads are thoroughly dry and place them in clean, dry glass jars. If possible, store your jars in a dark place to prevent fading and loss of flavor.

Another interesting wild tea is made

from the dried leaves of elderberry (*Sambucus canadensis*). This rather tall bush or tree can be found along hedgerows, country roads, and stream banks. The cream-colored flowers of the elderberry bloom in June through July and take the form of a round, flat cluster. In August, purple-black berries replace the flowers and provide us with homemade pies and jams.

To make elder tea, dry the leaves by the paper bag method or by stringing them on thread and hanging in a dry place. Crinkle a few of the dried leaves to release the flavor, place in your tea ball and drop into boiling water. Elder tea has a sweet, robust taste and you really don't have to add any sugar or honey to satisfy your sweet tooth. Leaves can be stored either whole or crinkled.

Mint Relatives

The next two teas are relatives from the mint family. Both are quite tasty. The Oswego tea or "bee balm" (*Monarda didyma*) is a tall square-stemmed plant with brilliant red flowers. It can be found in moist places along stream banks and creeks from July to September. Take some of the aromatic leaves, string them up to dry and brew into tea. This tea was drunk by the Continental Army stationed at Oswego, New York, during the Revolutionary War—hence the name Oswego tea.

Its relative is wild bergamot (*Monarda fistulosa*). It has the same square stem and general appearance as Oswego tea but wild bergamot has narrower leaves and flowers ranging from white to pale purple or lilac, and it is found in much drier places such as fencerows and back country roads and lanes. It blooms from June to September with a fragrant odor that makes it a favorite stopping-place for bees. Make into tea in the same way as Oswego tea. Both the Oswego tea and wild bergamot plants produce an enjoyable mint-flavored tea. The leaves

can be dried, stored, and used long after summer.

The familiar wild roses (*Rosa* species) also produce fruit that can be made into a hot brew. These wild flowers have small, wrinkled leaves with thorny stems and flowers that range from rose to white. They bloom in pastures, and along fences, railroad tracks, and country roads from July to September on bushy shrubs, two to six feet tall. After blooming, the rose fruits or hips turn a bright red and look like tiny, oblong apples. Rose hips are rich in vitamin C and from these hips the tea is made. Take a few of the red, ripe hips, crush and place in the tea ball. Let steep in boiling water for a few minutes and add honey to suit your taste. This tea has a light flavor of apple and is quite enjoyable. The rose hips may be crushed or left whole and dried for future use.

I've listed only a few of the most familiar wild teas common in Pennsylvania—ones that I have found tasty. After trying some, you'll probably want to find more plants and flowers that can be made into tea. Check your local library for books about wildflowers and plants that contain good quality photographs or illustrations so that you can properly identify the source of the tea you want to try. Don't experiment on your own. You might end up with a stomach ache or worse. *Always be sure of your source.*

If you start collecting and tasting, you'll be surprised to find out that some of those old weeds you've seen growing along your favorite trail can be made into enjoyable drinks. During the long, cold winter nights, you'll be able to heat yourself up a brew, sit back, relax, and think of those warm days you went collecting in the great outdoors.

Game Recipes Requested

We are planning to publish a paperback book of game recipes. Over the years we have received numerous recipes from GAME NEWS subscribers, and our mail indicates many readers are interested in this subject. Doubtless you have favorite recipes of your own. If you have a recipe for any game bird or animal which your family particularly likes, we would be glad to see it. No payment can be made for such material, but if we use your recipe we will give you credit as the contributor. Recipes should be typed or carefully printed on one side of the paper only, following the conventional format for such items. Submit to: RECIPES, Pennsylvania GAME NEWS, P.O. Box 1567, Harrisburg, Pa. 17120.

New Deer and Bear Records Book Available

Pennsylvania Big Game Records, 1965-1976, is the complete report on the Game Commission's six statewide deer and bear scoring programs. This 112-page paperbound book contains a complete integrated listing of all Pennsylvania-harvested deer and bear which have been measured during the programs (using the Boone and Crockett system) and which meet the minimums established by the Commission. In addition, personal accounts of most of the hunts which collected the top trophies are included, along with photos of more than 160 high-scoring deer and bear, annual harvest totals from 1915 through 1976, and other informative items. Price is \$1.00 delivered, from Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120.

GAME WAS NEVER MEANT TO BE WASTED

By Bernie Fuller

THE OLD-TIMER set the scene for his story saying, "This isn't a tale of great deer falling to a single shot or of elk so big it took many men to carry the meat back to camp. It's one of hunting the game right around here. The sort of game we had for our meal tonight—rabbits, grouse and squirrels—is harder to hunt successfully than big game, because it's so elusive and difficult to hit when we shoot.

"The day had all the ingredients of a perfect day of hunting," he went on. "Good companions, temperate weather, willing dogs and an abundance of game. The secret to finding game is being alert all the time you're in the woods and remembering where you saw it in the past.

"We hunted an area on the edge of a heavy forest. It had been burned about five years earlier, and now had plenty of new growth and cover. No sooner had we reached the area than a ruffed grouse burst forth from its perch high in a hemlock and accelerated through the heavy cover to safety. The dogs became excited for the chance to do their job, and it wasn't long before a bird had been downed for them to retrieve. It seemed as if birds were all around us.

"The hunt became an example of how great it can be when the gods smile down upon you. We reached camp with enough game to provide for many feasts; the hunters had performed as the experts that they are supposed to be, missing only a few shots; the dogs had done everything that was expected of them and more, locating and retrieving all of the game we hit."

As he rose to retire to his bed for the night, the old man left one more lesson; "Ever since that hunt, I have been more and more aware of the importance of having a good dog for a hunting companion. Game was never meant to be wasted, and good dogs will prevent that waste by locating the game you shoot."

That campfire scene and its lessons in

hunting have been repeated over and over again through the years. It could have taken place in 1977 or 1877, or many hundreds of years ago among a tribe of American Indians.

Today, when we think of hunting dogs, we think of the key breeds in our hunting world: English setters, pointers, Brittany spaniels, German shorthairs, the retrievers, and others. Some time ago it occurred to me that there was more to the hunting dog story than the breeds as we know them today or the breeds from which they derived in Europe many years ago. We can trace the use of dogs as hunters to a period before the evolution of today's breeds, and, further, we know that the American Indian used dogs as hunting companions.

Indian Dogs Not Pets

The Indians had domesticated dogs that came with them in their migration across the land bridge between Eastern Siberia and what is now Alaska 35,000 years ago. Because of the spartan life led by these people, it appears logical that the dogs were not pets, but assisted their masters in the performance of everyday tasks. The dogs were used to carry or drag, using a travois, the household goods of the families when they were on the move. But the tribes were not always on the move. The dogs had to have another function in order for them to earn their keep, for Indian society was geared to the useful functioning of every member of the group, human or animal.

The Meadowcroft rock shelter in southwestern Pennsylvania (GAME NEWS, April, 1976), used as a hunting camp more than 16,000 years ago, has yielded still another clue to the use of dogs by Indian hunters. The skeletal remains of an intentionally buried dog were unearthed in the early excavation attempts, proving the value of dogs to those early Americans.

Knowing the propensity of field trial

dogs—and others—to pick up the scent of a deer and attempt to run it down, and knowing the number of deer killed each year by dogs in Pennsylvania, it seems that the hunting Indian would have had a much better chance to fill the larder with venison if he had used his dogs to hunt. According to Harold E. Driver in his *Indians of North America*, “Dogs were probably used in hunting by the majority of North American tribes, but on the Plains, Prairies, in the Great Basin, and in Meso-America only a minority of peoples seem to have followed this practice.” Driver goes on to say that dogs were not used to locate large animals that ran in herds, but were more likely used to locate small game and single animals. A painting done by Peter Rindisbacher in 1826, “Mode of Chasing the Bison by the Assineboins, a Sioux Tribe, on Snow Shoes,” shows the use of dogs to assist the lone Indian in downing a buffalo. Apparently the dogs were used to draw the attention of the animal away from the hunter while he finished it off. Much the same method is recorded as being used by the Eskimos in the pursuit of bears: the dogs were used to bait the bear and prevent it from escaping.

Use of Dogs

While indications are that the early Indians for the most part did not specifically train dogs to hunt for them, once the natural instinct of dogs to pursue game became apparent, the Indian masters would have been fools not to take advantage of it. As Indians developed socially and technologically, the use of hunting dogs trained to retrieve game was added to the hunter's bag of tricks, and increased his game kill accordingly.

There is every indication that the Indians, in later years, used their dogs to catch fish as well as retrieve game. This talent of dogs was brought home to me last summer while we were fishing the shoreline of a lake. A beautiful Golden

retriever walked directly into the water until he was up to his chest, and slowly began walking along the shore, peering into the water ahead of his feet. He would pause every few minutes and catch a small fish. I'm not trying to suggest that the Indians had retrievers to do their fishing; however, a sketch done by Rudolph Kurz in 1852 shows a Blackfoot Indian pony and three types of dogs, one of which very much resembles a retriever.

This is interesting in view of one of the early beliefs about the Golden: that these dogs are descended from animals used to guard sheep in the Caucasian Mountains of Russia. Remember, the Indians were relatives of the migrants from eastern Siberia, who, in turn, were migrants. Even if the fable about the Golden is incorrect, it opens up an avenue of speculation when it comes to Indian dogs.

The dogs of today's average hunter earn their keep during the season. In the mid-19th century, however, it wasn't at all unusual for an Indian family to own twenty or more dogs. These were something of a pain inside the lodge, but, because they earned their keep, were tolerated. According to Elijah M. Haines in *The American Indian*, the Dakota and Algonquin tribes held dogs in high esteem, and the dogs “. . . in return were faithful friends and allies in the chase, and devoted to their masters in all their adventures.”

We are merely the latest of a long line of users of these marvelous hunting animals. Our technical expertise in hunting and training dogs may have improved over the years, but we are reliving a part of the past every time we venture afield with a faithful canine.

When I have a successful day hunting birds, I like to think that it's because I somehow heard the wise Indian patriarch who said, “Game was never meant to be wasted, and good dogs will prevent that waste by locating the game you shoot.”



BOB KALMBACHER AND JOHN WASHKO visit experimental clearing sowed to selected grasses, limed and fertilized. Parts have been mulched, other sections have not.

Clearings and Deer

By Robert S. Kalmbacher, Gerald A. Wunz
and John B. Washko

EVER SINCE some early wildlife manager noticed that game seemed more abundant where forest trees gave way to grassy openings, the concept of managing forest clearings has been with us. No one yet has proved that creating clearings or food plots is practical or even necessary in some cases for the wildlife it is supposed to benefit. But in the case of the whitetail it's long been obvious that the largest and most prolific deer are found in marginal or abandoned farmland or partly cut-over forests where plant variety is greatest.

Deer need variety in the plants they eat to provide protein and minerals to build body tissues, and fats and carbohydrates for energy. They need these food constituents in varying proportions to satisfy their nutritional needs, which change with the seasons. During the spring, for example, nature conveniently provides succulent herbaceous vegetation such as grasses,

weeds and farm crops that are high in proteins and minerals needed especially by females which are carrying or nursing fawns. Summer continues to yield a variety of succulent plants which provide protein for rapidly growing fawns. In the fall, the diet changes from high-protein to high-energy (fat and carbohydrate) foods, such as acorns and beechnuts, which are stored as body fat to help the animal to survive the winter. Recent research has shown that during the winter when foods are least plentiful, deer can limit their intake and subsist until spring by browsing on lower quality foods, such as twigs of trees and shrubs.

The Need for Woodland Clearings

Unfortunately, much of Pennsylvania's central and northern deer range

is heavily forested or severely overgrazed by deer to the point where even the herbaceous plants that deer prefer as spring and summer foods may not be sufficiently abundant. To increase these protein-producing plants, wildlife managers now commonly make clearings in continuously forested areas.

These clearings are usually made by bulldozing away existing trees and shrubs, or they may result from timbering operations. Typical clearings should average about one acre in size and be well distributed throughout the forest to prevent concentrations of deer.

Clearings can be managed in two ways. One is to simply allow openings to revegetate naturally. This is the least expensive, but unless soils are naturally fertile, chances are most of the herbaceous plant species that "volunteer" (that is, grow naturally without being deliberately planted) are going to be inferior as deer foods.

The other method calls for the clearings to be limed, fertilized and seeded to domestic grasses and legumes, and managed much as farm pastures are. These are referred to as *agricultural clearings* or *wildlife food plots*. At least 75 different plant varieties, mostly legumes (such as clover) and grasses,

have been tried in these clearings. Unfortunately, most of these plants were developed for use in agriculture under high fertility and are not always suited for the poorer forest soils which developed from acid sandstone and shale.

Because of this inherent infertility of most forest soils and the initial cost of clearing trees and brush, clearings can be expensive to create and to maintain. This justified considerable research to develop sound management practices which minimize costs.

Over the four-year period from 1971-1975, the Agronomy Department of The Pennsylvania State University cooperated in studies with the Pennsylvania Game Commission and Pennsylvania Bureau of Forestry. In Cameron and Mifflin counties, we compared seasonal plant availability, nutritional value, and forage use by deer in both natural and seeded clearings.

What We Studied and How

Some of the food-plot clearings we studied were 8-11 years old, well established, and intensively managed; that is, liming, fertilizing and seeding practices were similar to those used in agricultural forage production. Others were new clearings where less lime and fertilizer were applied. All the food plots had been seeded to mixtures of birdsfoot trefoil (a legume) and a companion grass, such as Kentucky bluegrass, meadow foxtail, orchardgrass, or tall fescue.

The natural clearings, which had not been limed or fertilized, were older and well established with herbaceous plants such as poverty grasses, broomsedge, sheep fescue, sorrels, goldenrods, hawkweed and others that grow on acid soils of low fertility. To find out how much the deer used these clearings, we periodically (from mid-April to early November) measured and compared the amount of plant forage inside deer-proof fences with the amount of forage remaining where deer could graze. The difference was assumed to be due to consumption by



BIOLOGIST JERRY WUNZ examines plants coming up in natural clearing. Such areas are inexpensive, but unless soils are naturally fertile, most volunteer plant species are inferior deer food.

deer. We found that deer used forage in the planted food plots primarily in the spring. Use always began as soon as forage was available in April, reached a peak by mid-May, declined to almost nothing in June and increased slightly again in the fall. Summer forage use was limited to only occasional nibbling by deer.

Among the agricultural forages in the planted clearings during the spring, deer fed almost exclusively on the leaf blades of the grasses. Despite differences in production between various grass species, there was little difference in the actual amounts that deer ate. All were cool season grass species that begin growing in April and produce their most abundant growth before that of most native plants. The birdsfoot trefoil in these clearings did not start growing until mid-May, when deer use of the grasses had already tapered off.

Trefoil is usually shunned by foraging deer until later in the summer, presumably because the plant has a bitter taste until it matures. But trefoil has a further value besides being just another late summer and fall forage plant, when natural deer foods are also abundant. Like other legumes, its roots harbor specific bacteria which can take free nitrogen from the air, and fix it for plant use. (Other plants such as grasses lack this capacity to get free nitrogen from air.) This makes them a sort of natural fertilizer, and increases the yield and protein content of the grasses planted with the trefoil.

Most of the wild plants on the natural clearings were, like trefoil, warm season plants that don't grow until late in the spring.

Forage Production and Use By Deer

Thus, with the help of the trefoil and periodic applications of lime and fertilizer, forage production on the eight-year and 11-year-old intensively managed clearings was similar to production on well-managed farm pastures and hayfields. Forage produced on these clearings from mid-April to



LAND MANAGER Ivan Dodd disks Mifflin County clearing. Planting cool season grasses is a practical way to provide an early spring protein supplement for deer.

June averaged 2,800 pounds per acre, while that on the new clearings with only one-third the amount of lime and fertilizer applied averaged 1,700 pounds. Most of the forage in these agricultural clearings was produced in the spring. In contrast, total annual production of the wild plants in the natural clearing averaged only 800 pounds per acre, and only 300 pounds of this was produced during the spring.

Regardless of production, what's important to a Game Lands manager is how much is actually eaten by deer. Considering total annual production, we found only a small percentage of the forage was used, mostly in the spring. On the intensively managed clearing, for example, spring use by deer accounted for only 8 percent of the total forage produced from spring through fall. And only 14 percent, or 400 pounds per acre, of the spring-produced forage was eaten by deer. Deer also used a similar amount—450 pounds—from clearings with less lime and fertilizer, but this represented 26 percent of the spring production.

Selecting and Managing Forages

These findings justify two conclusions. First, high forage production is not necessary to supply supplemental food for deer. Second, the selection of

species to be managed in clearings should be based primarily on early spring growth, because this is when they are used and, apparently, most needed by deer.

In the natural clearing it wasn't the relatively limited production of vegetation that resulted in reduced use as much as it was the time that it was available. Although many plants grow well on these poorer soils, unless they provide early spring forage and supplement the natural feeds which may be in short supply, the value of such clearings for deer may be reduced. There are some native plants that produce early spring forage, particularly around wet areas such as springs or bogs. However, these places usually make up only a small segment of the habitat.

Undoubtedly, agricultural forages such as white clover and alfalfa, or grains such as corn and buckwheat, would be heavily used in the summer, too. Deer have preferences like any other animal, but providing such crops may be an expensive attempt to supplement already abundant naturally produced foods. Alfalfa and clovers are legumes, but, unlike birdsfoot trefoil, they require highly limed and fertile soils. So do the grains, and since they are annual plants, the clearings must be plowed and reseeded every year. The winter annual grains such as rye and wheat can provide forage from fall to spring; but like the other grains they are too costly.

Providing High Protein For Deer

By far the most practical way to provide the early spring protein supplement for deer is through the cool season grasses. The protein content of the grasses, like production and use, was highest in the spring. The leaves of the various kinds of cool season grasses were similar in protein content.

The leaves and upper stems of the birdsfoot trefoil seeded with grass were somewhat higher in protein. But because trefoil grows more slowly, less forage was available.

Also, as stated earlier, deer don't eat

much trefoil until the plants mature later in the summer. Most native plant species on the natural clearing didn't reach the peak spring protein levels of the cool season grasses. Their protein levels were generally lower, and stayed about the same throughout the growing season. An exception was sorrel, which was relatively abundant, and contained nearly as much protein as the cool season grasses.

The importance of the protein supplied by the cool season grasses is probably much greater than the frequency of their use suggests. The deer fetus grows most rapidly during the last third of pregnancy, which coincides with the use of cool season grasses and fortunately the period when the forages were at their highest protein level.

Liming and Fertilizing

Since our findings indicate that *when* forage is available is more important than *how much* is available, some of the factors promoting high yield can be modified. Lime and fertilizer recommendations from a farm soil test are based on the need for high yield and heavy crop removal—neither of which apply to clearing management for game. Therefore it was hoped that trefoil/cool season grass mixtures might be successfully established to provide ample forage at a fraction of the lime and fertilizer rates that are usually recommended by soil test for forest soils which had never been treated.

To test this idea, we seeded three Mifflin County clearings with a mixture of birdsfoot trefoil and tall fescue grass at different times of the year, using sixteen levels of lime and fertilizer. We wanted to find out the minimum amounts of lime and fertilizer needed for an adequate supply of spring forage without any additional inputs for up to ten years or longer. The sixteen levels varied from five tons of ground limestone and 1,300 pounds of an 0-15-30 fertilizer, to the lowest level of one ton of lime and 150 pounds of an 0-20-20 fertilizer per acre. Nitrogen (in the



COOL SEASON grasses eaten by deer, left; above, sorrel, a natural-growing, high-protein plant; below from left, orchard grass, multiflora rose seedling, and milkweed.



ASTER, left, in natural clearing; tall fescue, below; clover and bluegrass, right.





IT LONG HAS been noticed that game seems more abundant where forests give way to grassy openings, as shown by these deer. Thus the concept of managing forest clearings has been accepted for years.

form of urea) was applied to all plots at the rate of 50 pounds per acre.

The result was successful establishment at all levels of lime and fertilizer. Forage production on these new clearings was sampled four times during a three-year period, and the results have consistently shown that large applications of lime have not appreciably increased forage production on these acid sandstone soils. The more fertilizer applied, however, the greater the production.

One level of lime and fertilizer—one ton of lime and a fertilizer rate of 50-30-30 (roughly 300 lbs. of a 15-10-10 analysis)—was particularly promising. This produced a sufficient amount of forage with the least input. Where this level was applied, spring and summer forage production averaged 1,840 pounds per acre, 60 percent of which was produced in the spring when deer use was greatest.

This finding that only moderate amounts of lime and fertilizer are adequate to establish and maintain sufficient amounts of deer forage in forest clearings could save a lot of money. The greatest expenditure in forage establishment can be lime and fertilizer

and the cost of their application back in remote clearings in mountainous regions. Lime is the most costly because of the labor involved in hauling and spreading it. So it is fortunate that the study showed that a lot of lime is not as important as a modest amount of fertilizer.

Pennsylvania soils, especially forest soils, are low in the major fertilizer elements. But after the initial application of fertilizer to establish the desired forage plants, a large part of the nutrients within a clearing probably can be recycled. This is because some of the nutrient elements removed from the clearing by the grazing deer are returned to the soil in their droppings. Also, the nutrients remaining in the plants not consumed by animals are returned to the soil as the dead vegetation decomposes.

Conclusions

Our studies showed forage for deer should be selected mainly by two major criteria: tolerance to less favorable soil conditions and ability to grow during cool seasons, particularly early spring when natural foods are usually least abundant.

Based on the proportions of these forages that deer ate in the clearings, the high production that is expected in farm pasture or hayfield management is not necessary. The primary management aim of these food plots for deer should be simply to provide a high protein supplement when it's needed most. Our findings indicating this can be done with less lime and fertilizer may result in considerable savings and increased efficiency in the Game Commission's food plot program.

Give

GAME NEWS

To a Friend . . .



ON A NARROW PATH THROUGH thick brush, I have seen a black bear, many times the size of *M. mephitis*, leave the path of the smaller animal.

STRIPED STINKER

By Carsten Ahrens

MEPHITIS MEPHITIS is the scientific name of the common striped skunk; it comes from the Latin word for "stench," so you could say his name means "double-barreled stinker." The striped skunk is the most widespread furbearing animal in North America, found in all the contiguous 48 states, across Canada, and down into Mexico—more widespread than is the muskrat or the ubiquitous cottontail rabbit. And because it is so common, and has such a nauseating way of protecting itself, there is probably no other animal so joked about and yet so feared in our country. The fear is shared by humans and non-humans alike.

On a narrow path through thick brush, I have seen a black bear, many times the size of *M. mephitis*, leave the path and climb out of the way of the smaller animal who went unconcerned about his business without even noticing the greater creature's

unease. The only other mammal accorded as much respect is the porcupine.

A good-size striped skunk may be 28 inches long, including the plume-like 10-inch tail. He may weigh 12 pounds but average is about 7. Covered with slightly coarse long black hair, the animal will have a thin white line down the center of its face, a white top-knot, and two white dorsal stripes angling off to the sides. These stripes may be narrow and short or wide and long (the less white, the more valuable the pelt). There may be more or less white hair in the waving tail.

North America has four species of skunks. They are related to similar animals in Europe that are called "polecats." This term—along with others such as "woods pussy"—is sometimes used as a nickname for North American skunks.

Along with the striped skunk, a

second species, the spotted skunk, is commonly found in our South and West; it doesn't venture far into our North and Northeast. It is a smaller and more nimble creature, has considerable ability at digging and climbing, and has three white spots on its head and broken white stripes on its sides.

Two other species, the white-backed hog-nosed skunk and the long-tailed hooded skunk, are centered in Mexico but they get up into southern Arizona, New Mexico, and Texas. All possess the fearful ability to aim and send with great accuracy a stream or spray of a chemical compound (a mercaptan) which is rich in sulfur, into the face and the eyes of the predator. Fortunately, the stinging of the skin and the burning blindness that result are temporary, but the odor left behind seems everlasting. I once saw a great horned owl get a full dose of spray while attacking a skunk; the huge bird tumbled about like a decapitated chicken.

If one wants a skunk for a pet, a veterinarian can de-scent the creature. As farm children, we knew nothing of such an operation, yet we often had skunks about as pets. There were a number of culverts under our long lane, and each summer "mammy" skunks used the tiles as maternity dens. When the young were large enough to run about, my older brother would push the nest, mother, and all—as many as 10 kittens—into a sack and carry them home to a big pen in the old packing house.

Toys or Puppies

We played with them as if they were toys or puppies. My sisters even dressed them in doll's clothing. Yet I don't remember that they ever sprayed anyone. They ate almost anything, loved milk and table scraps. We grew very fond of them, yet each year, just at the end of the trapping season in March, all of them were painlessly put to death, skinned, their hides stretched on gothic-arch frames, and sold for their fur. They were a cash crop on the farm.

Those who might want a Mephistophilian pet should be warned that as the animals get older in captivity, they

tend to become sluggish and quite fat. They are also highly susceptible to rabies.

The summertime raids of our childhood would now be illegal, too; furbearers (of which the skunk is one) may only be possessed if they are legally taken (that is, according to the trapping laws) during open season in Pennsylvania. This protects young animals.

Through my boyhood, I trapped skunks along with the more numerous muskrats and the scarcer minks. One open winter I caught 22 skunks and got them ready for market, yet never missed a day of school. Once, I caught a huge, almost coal-black one under a barn about a mile up the lane that crossed our farm. I had ridden horseback to look after the traps and on the way home tried to carry the skunk so that the wind would carry the odor away from me. When I arrived at school that morning, the principal was standing in the hallway. He made no wry face when I entered, but merely said,

"Much white on him?"

I shook my head.

"Good," he replied.

The olfactory nerves in those unsophisticated times must have been less acute than they now are. But then, most of the boys and some of the girls were trappers. Years later, I taught in a Pittsburgh high school and the news traveled ahead of a boy who had met a skunk one morning. Our principal was out front awaiting the lad, not to congratulate him but to send him home!

Skunks don't hibernate the winter through as woodchucks do. Like chucks, they put on layers of fat in the fall, and when a bitter cold spell wedges in, the animals take a long nap, using up some of that *avoirdupois*. They never stash away provisions as squirrels do each fall. In our back barn, they tunneled into the hay where they were snug indeed. When a winter-break occurs, they wake up and leave their comfortable dens to wade about in the slush. These unseasonably mild spells usually occur in February and mating takes place then, too. When the

temperature drops, each partner finds the way back to his or her tunnel for another nap.

The gestation period is a little over two months, so the young are usually born in mid-April or later, depending upon the time of the winter-break. Like other carnivores, the new-born kittens (4-8) are blind, naked (although the black-and-white pattern is already visible on their bare skin), utterly helpless, and spend weeks curled up with the old skunk, just eating and sleeping. As soon as they can travel about and the spring nights grow warm, their mother leads them out into the world where they learn to catch and eat a variety of insects, mollusks, amphibians, rodents, occasional bird eggs and young birds, and frequently mushrooms, berries, fruits, and other plant foods.

One snowy winter evening in those long-ago days when we raised skunks, the animals dug their way out of their pen and tore their way into Aunt's brooder coop. There, 65 silver-laced Wyandotte chicks in the pin-feather stage were massacred, and those that weren't eaten were carried out of the

coop and buried underneath it—packed in rather neat order—for future feasts. Aunt was most indignant. She believed her beauties had been stolen. But she investigated further. The skunks were all back in their pen, stuffed to the limit, all soundly and innocently asleep. But the snow clearly showed their tracks: their goings out and their comings in were so evident. And we raised no more skunks! (In their defense, however, it must be pointed out that skunks do a fine job of keeping down harmful rodent and insect populations).

It's a sight to watch a family of skunks on a moonlit night. Their senses aren't too acute, so if you're quiet, they'll not know you're about. Sometimes the old skunk allows them to play like puppies, tumbling over each other and romping about. Another time, she's more militant, lining them up in single file, plumes aloft and waving in the breeze. Then off they go in sort of a shuffling gallop to the swamp for crayfish or to the meadow for crickets or to the dump for something edible—which, to a skunk, is almost anything.

Nick Rosato Print Available

Nick Rosato, longtime illustrator for *GAME NEWS*, is offering a limited edition hunting print, "Mohawk Along Gray's Run." Only 950 of the prints, which show an Indian hunting elk in northcentral Pennsylvania, are available. All are signed and numbered by the artist. Overall dimensions are 24x18, with plate size of 20x13½. Special price to *GAME NEWS* readers is \$30, including tax and postage. Delivery is in a mailing tube. Order from Nick Rosato, RD 1, Box 407, Cogan Station, Pa. 17728.

Living Aboard Your Recreational Vehicle, by Gordon and Janet Groene, David McKay Co., 750 3rd Ave., NYC 10017, paperbound, 180 pp., \$4.95. The subtitle, "everything you want to know about the full-time life on wheels," gives a good indication of the purpose and contents of this book. More and more people are taking to the road—full-time—and the Groenes tell how to choose a suitable RV, drive it, live in it, maintain it . . . whatever. Fun to learn about, even if you don't want to do it.

How to Measure and Score Big-Game Trophies, by Grancel Fitz, revised by Betty Sample Fitz, David McKay Co., 750 3rd Ave., NYC 10017, 134 pp., \$12.50. Gives the history of the official scoring methods used by the Boone and Crockett Club and the Pope and Young Club; tells how to score the 26 North American species of big game, describing and solving problems that often crop up during such scoring; and shows a scoring chart for each species.



DGP Jerry Zeidler tells about live-trapping beavers to control damage.



Trout Unlimited member helps camper to fly.



Wildlife signs enhance a woodland walk.



At week's end, camp director Fiedor (left), DGP Zeidler and Parker Dam superintendent Scott Streater congratulate an aware outdoorsman.

"Just one more"





Campers inspect a culvert-type bear trap.



Seining for aquatic creatures.

Photos by Deputy Game Protectors
Joe Fiedor, Tim Irwin

ht's campsite!"



To the world of outdoor letters, welcome . . .

POP

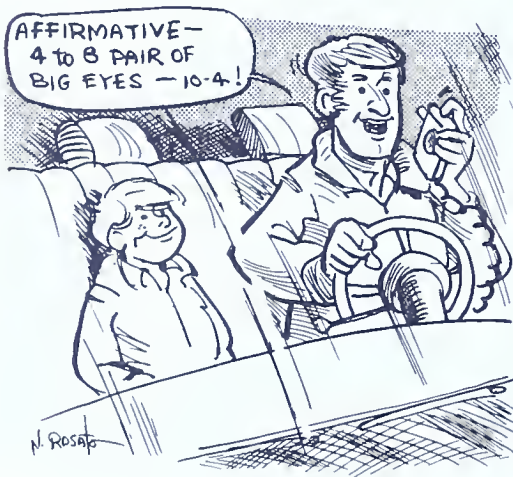
There is as yet no ethic dealing with man's relation to land and to the animals and plants which grow upon it. . . . The land relation is still strictly economic, entailing privileges but not obligations.—Aldo Leopold.

Hopefully, Mr. Leopold, the 21 young Pennsylvanians who attended the first Pennsylvania Outdoor Purist camp are now aware of those obligations. During the week at Camp Mountain Run near Penfield, "Poppers" worked from dawn to dusk in field and classroom with volunteer instructors from several organizations, who discussed and demonstrated their specialties. All stressed the need for the purist today. And who is the purist? He's the hunter who abides by the code of the hunt, respecting the wildlife he seeks and the landowner who hosts him. . . . He's the backpacker who brings home all he left with, plus some litterbug's trash. . . . He's any outdoorsman whose creed is respect: respect for his fellow man, for the outdoors and for the image he leaves behind.

The POP idea originated with the Boy Scouts' Bucktail Council, whose conservation committee sought a way to promote a "use but don't abuse" philosophy in tomorrow's outdoorsmen. With the second session coming up, the Council hopes other organizations will pick up on the idea. Similar county- and statewide camps exist, but with millions of school-age young people in the state, there's always an urgent need for more. For details, write the Bucktail Council, 209 First St., DuBois, Pa. 15801.

Good News

YORK COUNTY—We all read in the newspaper when someone is injured while hunting but not a word is printed when we go through a season accident-free. I would like to thank the hunters in my district for being careful. Not a single accident was reported to me this past season.—DGP R. L. Yeakel, Red Lion.



PR via CB

ADAMS COUNTY—One day while travelling on Route 234 between Heidersburg and Biglerville, I received the following message via CB radio: "How about that, Pa. Game Protector up there, ya got your ears on?" "10-4; who do I have back there?" "The gray car right behind you. I have a small boy that wants to know how many babies owls have; what is your suggestion?" "Tell him they lay about four to six, maybe eight eggs." "That sounds like a good answer. You know how these children are when they want an answer. Thank you, good buddy!" Well at least I got my public relations in for the day, and a Field Note besides.—DGP Gary Becker, Aspers.

Dry Dock

ERIE COUNTY—The big storm we had in January found a lot of our water birds still sitting on the lakes. Fifteen-foot waves, coupled with winds at 55 mph from the north, caused many of them to leave. Some, especially the horned grebes, were driven inland as soon as they took to the air, and were forced down into the snow drifts. Many of them were found by people who did not know that these birds need a running start on water to take off and are very awkward on land. They would report a crippled duck. After making three trips to the bay in Erie with about 18 birds, I finally told people to find some open water to put the grebes on and they would be okay.—DGP Russ Meyer, Fairview.

Thanks

PIKE COUNTY—An environmental group known as Explorer Post 1, sponsored by the Allentown Council of the Telephone Pioneers of America, Kennard Chapter, made an extremely generous and valuable contribution to our black bear research program. They constructed and donated over 100 radio transmitters, waterproof packaging materials, and electronic developmental work which would have cost us roughly \$20,000. This equipment is of excellent quality and has greatly aided our research program. Warren Wanamaker, environmental chairman of the Kennard Chapter, made the contribution possible. Warren is an avid sportsman and well-known environmentalist from the Lehigh County area. My many thanks to Warren, Explorer Post 1, and the specialists of Western Electric and Bell Laboratories of Allentown, for a tremendous contribution and a job well done.—PGC Black Bear Researcher Gary L. Alt.

Gotcha

DELAWARE COUNTY—During trapping season much was written about trapping, use of the leg-hold trap and the fur industry in general. I did learn from experience that the live trap and the steel trap perform equally well for one particular species found in abundance in Delaware County. Early in the trapping season a local trapper was amazed when he found an automobile lying on its roof on top of his steel trap set. Needless to say, the car appeared perfectly calm and was not suffering any pain even though it was immobile in the jaws of the steel trap. Much later in the season at a different location our trapper was again amazed when he checked his trap (this time a live trap) to find it flattened by another automobile. Unfortunately, this particular trap did not prove large enough to hold its quarry.—DGP R. C. Feaster, Aston.

Year-Round Enjoyment

RLSC—Outdoor recreational activities here were somewhat limited this winter due to the three feet of snow cover. The snow didn't get the best of us, however—we began snowshoeing. This enjoyable pastime is not experienced by many people, but besides being fun it's also handy at times. For example, we used snowshoes to help look for a downed plane in an area inaccessible by snowmobile. From now on, don't give in to the snow—get snowshoes and enjoy the outdoors during the winter months, too.—Trainee John Roller.

Man's Dominion

RLSC—While on field training assignment with DGP Lynn Keller in Tioga County, an acquaintance reported seeing a red fox devouring a quantity of shrews that construction equipment had uncovered. Though the fox benefited temporarily from the misfortune of the shrew colony, one wonders about the far-reaching effect of the land use changes taking place every day.—Trainee R. C. Snouffer.



Lucky Hunter—No Deer

LUZERNE COUNTY—In 1977 we changed antlerless season from the usual Monday and Tuesday to the following Friday and Saturday. On Tuesday, a man dressed in hunting clothes and wearing both required licenses hurriedly stopped at Walter Welsh's service station for cigarettes. Walter thought the man had put on his hunting gear to go for the family Christmas tree, but when the nimrod said he wanted to get back hunting, Walt informed him that antlerless season didn't come in until Friday. The stunned hunter replied, "I wondered why I hadn't heard any shooting! I'm sure glad I didn't get a shot—I hunted all day yesterday, too." Who was the hunter? Walt says he doesn't know. Maybe all's well that ends well!—DGP Bob Nolf, Conyngham.

Good Eatin'—for a Deer

ERIE/WARREN COUNTIES—A woman called me and said she knew where there were some starving deer; could I bring her a bale of hay? I asked how she knew they were starving. She replied that the deer were eating branches off the trees and to do that they must be very hungry. I explained that this is called browsing, and is the natural feeding pattern for deer, especially in winter. I told her that as long as the deer have branches to bud-off, they aren't starving.—DGP George E. Gibson, Corry.



It's an Ill Wind

CUMBERLAND COUNTY—In spite of the deep snow and subfreezing temperatures experienced during January, small game seems to be surviving rather well. While on patrol one afternoon during the last week of January, I observed about 200 pheasants feeding in thickets. The deep snow put them closer to various weed seeds and other food items which they could not normally reach. The same applies to the rabbits. I have noticed where they have been "barking" the tops of young sprout growth which they could not normally have reached.—DGP Eugene Utech, Boiling Springs.

'Attaway, Team

ELK COUNTY—A special thanks to all for the assistance, cooperation and information received during the 1977-78 hunting season. We are always able to do a much better job with your help.—DGP Harold Harshbarger, Kersey.

Oldtimers

FULTON COUNTY—Mrs. Pittman, a resident east of Needmore, has two box turtles on her property. One is a battered old specimen bearing the date 1897. The other has the initials W. C. and dates 1938-41 and 42.—DGP Carl E. Jarrett, McConnellsburg.

No Wasted Effort

TIOGA COUNTY—During the past hunting season many sportsmen have reported Game Law violations, some even appearing as witnesses in court. Some of these incidents have resulted in the suspects' being found guilty, others have turned out differently. I hope that people who become involved in reporting suspected violations don't become discouraged if the case doesn't turn out the way they anticipated. A game protector may be unable to prosecute the case due to insufficient evidence. The court may find the defendant not guilty for any number of reasons. But I think the result of a person reporting a game violation is the same regardless of the official outcome of any trial. Everyone concerned becomes aware that his unethical or illegal actions are being observed and reported to the proper authority. In the end, every incident reported is a strike in the right direction.—DGP Lynn Keller, Wellsboro.

Cut Her Teeth on a Badge

ERIE COUNTY—Sometimes it's pretty hard to be serious in this job. One day four violators were in the office paying some pretty steep fines and I was trying to be stern with them. Just then my 15-month-old daughter Staey walked into the office and looked up at the men with a smile. One of the men motioned to her and said "Look, a baby game warden—I never saw one of those before."—DGP Wayne A. Lugaila, Waterford.

Bigger Toll

TIOGA COUNTY—I wish that the people who are so concerned about the welfare of wildlife during winter months would be as thoughtful during the poaching season (all year). Illegal hunting takes a far greater toll than any winter we have ever had. You can do your part by reporting Game Law violators and abiding by the seasons and bag limits.—LM Ken Zinn, Jersey Shore.

No License, No Limit

LAWRENCE COUNTY—I recently received a letter from my father containing the following: "While reading the newspaper the other night I happened to see the game law regulations set by the State of Pennsylvania. Deer: Oct. 1–Dec. 15. Hunting of deer with dogs prohibited. Squirrels: Sept. 1–Jan. 1. Rabbits: Nov. 1–Jan. 1. Hunting or killing rabbits with ferrets prohibited. Wild Turkey: Oct. 15–Jan. 1. Woodcock: July 4–Jan. 1. Quail: Nov. 1–Dec. 15. Ruffed Grouse and Pheasants: Oct. 1–Jan. 1. No license was required, no bag limits, and shooting hours were from when you got there to when you decided to quit. By the way, the paper was from my old hometown, 'The Oakdale Rural,' and was dated October 10, 1894."—DGP Gene W. Beaumont, New Castle.

Cheaper to Buy

WESTMORELAND COUNTY—I recently received a call from a sportsman who has subscribed to **GAME NEWS** for years, as has his brother who lives in Oregon. After enjoying the magazine each month, the local man would mail it on to Oregon. This was an economical way to gain maximum enjoyment out of a single copy—that is, until the postal rates rose to 29¢ per copy. That, multiplied by 36 copies for a three-year subscription, totaled \$10.44 in postage. He decided to purchase a three-year subscription for his brother at \$7.50, which is a substantial saving over the postage cost, and the Game Commission does the mailing for him. Now *that* is a bargain!—DGP Timothy C. Flanigan, Mt. Pleasant.

Two Beats None

PERRY COUNTY—On January 30, we saw two quail—the first we've seen this year. Didn't see a single one last year. Let's hope this good sign means more to come!—DGP LeRoy Everett, Newport.

In Our Humble Opinion

RLSC—As the Seventeenth Class enters its eighth month of training, all of us are looking forward to graduation in June. Even though we are eager to be assigned to a district, we realize that the next four months of instruction are essential. In other states the training period is far shorter than in Pennsylvania. It is this extra instruction and "polish" that Pennsylvania Game Protectors receive that makes them the best conservation officers in the nation.—Trainee Jim Donatelli.



Worked Hard But No Dinner

WESTMORELAND COUNTY—If it had been a boy with a snowball you could chalk it up to youthful exuberance, but for the immature red-tailed hawk, it was a matter of survival. I had stopped at Bob Lydick's farm and his son told me the story. Mrs. Lydick has a ceramic pheasant sitting in the window. During the severe cold snap in January, hunting became a futile effort for our birds of prey. Pushed by hunger, the hawk attacked—and hit the thermo-pane window. Dazed from the blow, which was heard throughout the house, he flew wildly into some brambles, then crashed into the side of the house. Finally regaining some of his composure, he flew to an apple tree in the orchard, lucky to be alive from an experience that could have been his last.—DGP Barry K. Moore, Saltsburg.

Expensive

LAND MANAGEMENT GROUP IV—Vandalism and destruction of buildings, gates, locks, posters, and numerous other items of Commission property are costing sportsmen a great deal of money which could be directed to more worthwhile programs. It is past time for the SPORTs to take a positive stand concerning this waste. Within this land management group alone we have experienced a vandalized road grader, two demolished bulletin boards, five cut locks, "turbing" of lawn areas, theft of evergreens and tools, shot-up signs, and a rifle bullet through a pickup truck—just in the last two months. This loss runs into thousands of dollars. Let us expand on the successful SPORT Program and confront those who destroy our facilities, as well as our wildlife resource.—LM W. J. Lockett, Perkasio.



Got 'Em Trained

SCHUYLKILL COUNTY—While Deputy Terefencko and I were on patrol during the extended small game season, three deer suddenly jumped across the road in front of us and tore down through a field. Deputy Terefencko rolled a window down and yelled, "It's OK, we're the game wardens." The deer instantly stopped, looked at us, and began complacently grazing in the field. They either understood "Grizzly Adams" Terefencko or read the decals on the State car. . . .—DGP Rod Dilling, Auburn.

All Five Had Lunch

BRADFORD COUNTY—As Food and Cover crew members Adams, Saxer, Stevens and I were eating lunch one day on the Game Lands, we had an opportunity to observe a weasel at work—an unusual sight in daytime. It jumped a rabbit from under a brushpile and killed it. Since this was a first for all of us, it was hard for us to believe how fast and efficient these little critters are.—LM C. J. Harris, Athens.

The Start of Involvement

CLARION COUNTY—Recently the Pine Hollow Rod & Gun Club of Clarion County helped to organize a new sportsmen's club in Butler County. In January, the Pine Hollow Club hosted the new club, and I was invited to the meeting. After talking with several of the members, most of whom helped to organize the new club, I was very much impressed. With sportsmen willing to get involved like this, it looks like the "anti-hunting, anti-gun" people are in for quite a struggle.—DGP James G. Bowers, Knox.

Gotta be Otter

SCHUYLKILL COUNTY—While on Game Lands patrol this winter, I found a set of tracks leading to a den in some boulders but did not pay too much attention to them. The following day I again saw the same kind of tracks approaching the den from another direction. My curiosity got the best of me, and I backtracked the trail and found where it entered and exited the river. After checking up on the tracks and conferring with a deputy who had trapped otters in Alabama, I had no doubt that there was an otter in the area. Perhaps this elusive aquatic animal had heard about the Little Schuylkill Conservation Club's stocking program and decided to check out the improved menu on the river.—DGP Stephen L. Opet, Tamaqua.

Fido Gets Around

BRADFORD COUNTY—I was amazed at the number of dogs seen on rural roads after that 30-inch snowfall in January. The deep snow made it impossible for them to run the countryside, so they were traveling the plowed roads. I didn't realize there were that many dogs running loose in this area.—DGP A. D. Rockwell, Sayre.



Unisex Warmth

MIFFLIN COUNTY—Like many hunters, an individual who is well known throughout this area has trouble keeping warm in deer season. This past season he thought he'd try something in addition to the usual longjohns—panty hose! He said they were occasionally inconvenient, but did help. He hasn't told too many people about this, so—because I value my health—I won't disclose his name. If the truth were known, I'd bet many hunters have at least tried them. Why not? Namath did!—DGP Tim Marks, Belleville.

Just in Time

HUNTINGDON COUNTY—There have been two confirmed recent sightings of a bald eagle within my district. This bird might have been lost forever if it hadn't been for concerned citizens, government protection, and the bans on certain pesticides.—DGP Don Parr, Huntingdon.

Meet Cousin Jim!

ARMSTRONG COUNTY—A deputy game protector and I went to investigate an incident recently and came away laughing. A smiling man approached us and asked "Hey, do you guys know Jim Davis, the game warden out in the Red Mill area?" I replied that I knew Jim, as he is one of my deputies. The man went on about being Jim's cousin and how well he knew him. At the time, the deputy and I were in full uniform with name plates on our coats. Once he started talking, we didn't have the heart to set him straight, and finally left without telling him that one of us was the same Jim Davis he "knew so well"!—DGP Al Scott, Rural Valley.

Still Fill a Need

RLSC—Several members of the 17th Training Class were recently called on to help with the search for a downed airplane near the DuBois-Jefferson County Airport. Low ceiling and fog, coupled with extremely deep powdered snow, made it impossible for search aircraft or snowmobiles to operate. The only travel off the roads was by snowshoes. When the aircraft was located by a helicopter after the weather improved, searchers on snowshoes were within five hundred yards of the wreckage. Even in our Machine Age, there is still a place for old-fashioned equipment.—Trainee William C. Wingo.

Van Dogh

BRADFORD COUNTY—During last mowing season, Roy Beardslee ran over a fawn with a self-propelled mowing machine. The machine cut off the fawn's ear and scraped its side. Roy took the fawn home, gave it first aid, and then took it back and put it in the field where he found it. He checked later that evening and the fawn was gone. During the fall he noticed some deer feeding in the same field. He got out his field glasses to see if any had antlers. Yep, you guessed it—one of the deer only had one ear.—DGP W. A. Bower, Troy.

Over 26,000 Roadkills

By Ted Godshall



DGP LEO YAHNER picks up buck killed on Venango County highway.

DEEER KILLED on Pennsylvania highways in 1977 exceeded the 25,000 level for the fifth time in the past six years, according to the annual Game Commission compilation.

Last year, Game Commission personnel removed 26,780 whitetails killed by vehicles on roads in the state. This is 2,597 more than in 1976, when 24,183 were picked up. However, the figure is still several thousand below the record 29,914 carcasses removed from the highways in 1975.

The figures include only those animals which are physically removed from the state's highways by Game Commission personnel.

Deer killed by vehicles in Pennsylvania exceed the number harvested by hunters in any of approximately 35 other states. The road-kill total is not always proportional to the number of deer in the state, since pre-hunting season deer population figures have been comparable in recent years.

Disposal of each highway kill usually involves at least several man-hours of time and several dozen miles of travel, so the cost to the state's sportsmen (whose purchases of hunting licenses pay the bill for removing the animals from Pennsylvania's roads) runs into hundreds of thousands of dollars.

Leading counties in highway deer

kill last year were Westmoreland with 1,260; Bucks, 1,249; Butler, 923; Venango, 836; Schuylkill, 788; and Clearfield, 737. The figures for Westmoreland and Bucks counties broke all preceding records for highway kills in a single county in one year.

Recorded deer mortality in the state last year, other than those taken by hunters, came to 34,030, over 3,000 more than the figure for 1976.

Dogs killed 1,123 whitetails last year, a sizable increase over the 804 pulled down in 1976 and the 627 lost in 1975. In Crawford County they killed 150 deer; in Erie County, 100; and in Susquehanna County, 93.

In 1977, 1,027 deer were killed for crop damage, a figure similar to the 1,044 removed the preceding year. Game protectors recorded 4,348 illegal kills, an increase from the 3,906 of 1976 but lower than 1975's 4,923. Losses in other categories totaled 752, compared to 663 the previous year.



Fewer Pelts, Greater Returns

FURBEARERS harvested by Pennsylvania trappers declined during the 1976-77 marketing year, but pelts purchased by fur dealers brought an all-time record price. Licensed dealers purchased 673,747 pelts taken in the state, a somewhat lower figure than the 705,667 taken the preceding year.

Declines in the harvests of muskrats, skunks, minks, beavers, raccoons and weasels were recorded. Slight increases were noted for opossums and red and gray foxes.

Dealers bought 179,543 raccoons for \$2,755,494.15, an average of \$15.35 per hide. Next on the value list were 354,929 muskrats, which brought \$1,960,212.59, an average of \$5.52 each.

A total of 16,527 red foxes returned \$678,006.67 to trappers, an average of \$41.02 per pelt. This was the highest-priced pelt sold last year. Following were 13,954 gray foxes, which brought \$398,143.62, an average of \$28.53.

Other major items were 95,629 opossums, \$188,739.11, average \$1.97; 3,292 beavers, \$68,503.32, average \$20.80; 4,852 minks, \$61,596.24, average \$12.70; and 1,294 weasels, \$515.50, or 40 cents each.

The figures represent only Pennsylvania-caught furs bought by Pennsylvania licensed raw fur dealers. Furs shipped or transported out of state by the trapper or held for his own use are not included in the tabulations.

The \$6,117,094.85 paid last year for the furs marketed in the state is a new record. The prior record was es-



Photo by John Plowman

KEN HESS displays eleven foxes he trapped in spare time last winter. In state, over 16,000 reds and almost 14,000 grays brought trappers over a million dollars.

established in 1975-76, when Keystone pelts brought trappers \$4,157,515.91.

Only weasel pelts showed a decrease in price compared to the preceding year, averaging 20 cents less.

Increases in the average price paid per pelt in other categories follow: muskrats, \$2.45; skunks, 25 cents; minks, \$4.67; beavers, \$3.82; opossums, 67 cents; raccoons, \$4.46; red foxes, \$7.53; and gray foxes, \$6.83.

The total number of pelts purchased by dealers last year was the lowest since the 1972-73 marketing year, when the figure was 525,848. The 1973-74 figure was 683,676, and in 1974-75 it reached 757,103.

Trapping Book Available

Pennsylvania Trapping and Predator Control Methods by the late Paul L. Failor is again available. Now in its eighth revised edition, this 96-page soft-bound book contains detailed information on all phases of Pennsylvania trapping. It covers numerous sets for foxes, beavers, minks, muskrats, weasels, raccoons, skunks and opossums, tells how to make bait, tan small furs, prepare equipment, etc., lists pertinent laws and regulations, and gives data on fur harvests and natural history facts. Price, \$1 delivered, from Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120.

Attention—Hunting License/Stamp Collectors

1976 was this country's Bicentennial Year, and Pennsylvania's regular hunting licenses included a printed message "Pennsylvania Bicentennial Issue" and an appropriate 1776–1976 logo of a hunter with muzzleloader and coonskin cap. 1976 was also the first year of issue of a stamp-type license for the archery and muzzleloader deer seasons. Many collectors, both stamp and regular license "philatelists," expressed interest in purchasing these. We have a supply of 1976 licenses—regular and stamp type—available for sale to the public. All are uncirculated. Only 1976-year issues are available. We have no earlier-year licenses for sale. The 1976 licenses can be obtained at a cost of 25¢ per stamp or license plus a \$2.00 handling charge per order. Make check or money order payable to the Pennsylvania Game Commission. Do not send cash. All orders will be filled on a first-come, first-served basis. Only a limited supply is available.

1976 Stamp/License Collector Order Form

Please send me the following uncirculated 1976 Bicentennial Licenses/Stamps:

Quantity	Description	Unit Cost	Total
_____	Pa. Resident Junior Bicentennial Hunting License	25¢	_____
_____	Pa. Resident Adult Bicentennial Hunting License	25¢	_____
_____	Pa. Resident Senior Bicentennial Hunting License	25¢	_____
_____	Pa. Nonresident Bicentennial Hunting License	25¢	_____
_____	Pa. Archery Stamp (First Year Issue)	25¢	_____
_____	Pa. Muzzleloader Stamp (First Year Issue)	25¢	_____
	Handling Charge		<u>2.00</u>
	Total		_____

Ordered By (Please Print)

Name _____

Address _____

City _____ State _____ Zip _____

Send Order To: Pennsylvania Game Commission, Division of Administration,
P.O. Box 1567, Harrisburg, Pa. 17120.

Open House at Game Farms

Open house programs have been scheduled by the Game Commission at its game farms on Sunday, June 11, from noon to 5 p.m. Game Commission personnel will be on hand at the farms to explain hatching and rearing programs. No reservations are necessary. Following are the names and locations of the game farms and the species produced by each:

Eastern Game Farm, Schwenksville R.D. 2, between Limerick and Schwenksville, pheasants; *Western Game Farm*, Cambridge Springs R.D. 1, three miles southeast of Cambridge Springs on Route 408, pheasants; *Loyalsock Game Farm*, Montoursville R.D. 2, five miles north of Montoursville on Route 87, pheasants; *State Wild Turkey Farm*, Proctor Star Route, Williamsport, seventeen miles north of Montoursville between Barbours and Proctor, wild turkeys; *State Wild Waterfowl Farm*, Meadville R.D. 4, two miles northwest of Geneva, mallard ducks; *Southwest Game Farm*, Distant, three miles south of New Bethlehem near Distant on Routes 28 and 66, pheasants.

Dig Those Wild Leeks

By Robert A. Fala

DGP, Lycoming County

IF YOU LIKE wild onions, or you need a tune-up for your salad, then a little bit of info on the wild leek is essential. Euell Gibbons, the modern day pioneer of living off the wild, had a special place in his heart for the wild leek. In his famous book, *Stalking the Wild Asparagus*, he says, "On the floor of the surrounding forest grew an abundance of wild leeks and pepper root, giving savor to our salads and condiments for our meats and sandwiches." Gibbons then describes some of his favorite recipes made from the leek, including French onion soup.

Believe it or not, this garlic-touched wild onion is a member of the sweet-smelling lily family. This may seem strange; however, in the plant world, family trees are generally established by the anatomy of the flower, so the fragrant lily of the valley and the wild leek are cousins despite their differences in smell.

The wild leek grows in clusters in moist rich woods throughout most of the Northeast. Stream valleys are probably the best places for finding leeks in Pennsylvania. The leaves, which are six to ten inches long and somewhat lance shaped, emerge from the bulb in early spring and are edible. As summer approaches, these leaves die and disappear and a long stalk with a cluster of greenish-white flowers grows. This growth sequence is similar to that of a garden onion.

If you have trouble finding leeks,



WILD LEEKS

some older outdoors-oriented people in your area will likely direct you to a patch. Once the leeks are found in April or May all you need is a small shovel or trowel to harvest a few. Digging below the leaves will reveal the bulbs, which then can be separated with your fingers. Wash the dirt off at a stream or faucet and you're ready to go.

As with any type of outdoor harvest, remember—be a practicing conservationist. Take only the leeks you will use. Leave some for the next person and for next year. Whether you eat leeks plain, with a little salt or make a soup, you'll probably like them. There is only one drawback to eating wild leeks—a case of "onions on the breath." I hope this won't stop you from giving them a try.

Delicious Game Recipes, by Joan Cone, order from the author, Box 242, Williamsburg, Va. 23185, 32 pp. booklet, \$2. Forty-two ways to prepare game (not only venison, ducks, etc., but also muskrat, beaver and raccoon), using conventional ranges and ovens, pressure cookers and slow cooking pots. As always from Mrs. Cone, tasty, tested recipes.

All About Rifle Hunting and Shooting in America, ed. by Steve Ferber, Winchester Press, 205 E. 42nd St., NYC 10017, 263 pp., \$10. A dozen-plus gunwriters such as Carmichel, Wootters, O'Connor, Hagel and Elman contribute chapters on their special interests, and Ferber wraps it all up in a neat package. No single volume can cover everything the title implies, but this is a nicely readable book.

Archers Take 4,678 Deer



JOHN WEEKS, of Loyalsockville, proudly shows first buck he ever took with his longbow. Trophy was one of 2,166 antlered deer taken during 1977 season.

PENNSYLVANIA'S archers had another good year during the most recent hunting seasons, according to reports filed with the Game Commission. During the 1977-78 seasons, archers reported taking 4,678 whitetails. This compares with 3,648 the pre-

vious year, and 5,061 in 1975-76, when the all-time record was established.

Bowmen harvested 2,166 antlered deer, including 1,527 with three or more points and 639 spike bucks. Archers took 1,996 females and 516 males in the antlerless harvest of 2,512. Overall, 2,682 males and 1,996 females were tagged.

Resident archers took 477 spike bucks and 1,281 with three or more points, for a total of 1,758 antlered deer, while they reported tagging 377 males and 1,500 females in the total antlerless bag of 1,877. Altogether, residents accounted for 3,635 deer.

Nonresident bowbenders reported taking 162 spike bucks and 246 with three or more points, for a total of 408 antlered deer, while they reported tagging 139 males and 496 females in the total antlerless bag of 635. Altogether, nonresidents accounted for 1,043 deer.

The compound bow, which was legalized for hunting just a few years ago, was used to take 2,666 deer, more than half of the whitetails taken with a bow.

Archers took 4,054 deer during the regular fall season which opened October 1 and closed October 28, and another 624 during the winter season which opened December 26 and closed on January 14.

1978 Taxidermy Exams Set

Taxidermists must be able to identify protected species, and must be sufficiently skilled that a person with an irreplaceable specimen need not fear that it will be ruined by poor mounting. For these reasons, anyone practicing taxidermy for profit in Pennsylvania must pass an exam and be issued a permit (and must be 18 or older). The 1978 taxidermy examinations will be given at the Game Commission's Southcentral Division Office in Huntingdon on June 20, 21 and, if necessary, 22.

The half-day exam is in two parts. Each applicant must show specimens that he or she has prepared in the past three years, including one deer head, one small mammal, one upland game bird, one species of waterfowl, and one fish or reptile. Finally, there will be a test on taxidermy methods and procedures.

Applications are available from the Law Enforcement Division, P.O. Box 1567, Harrisburg, Pa. 17120; from the division offices; or from local district game protectors. (These addresses appear in the *Hunting Digest*.) Completed applications must be filed **BY MAY 25**. There is a \$25 fee for the examination. Applicants will receive further details.

Steel Shot Comment from Remington

WITH THE waterfowling seasons complete, many valid questions have been posed by hunters on the use of steel shot. Most of the questions involve one or more of four counts:

1. Effectiveness
2. Future Improvements
3. Availability
4. Cost

Remington Arms Co. reports it has observed results from exclusive use of its own steel shot ammunition for duck and goose hunting at Remington Farms, the company's wildlife management demonstration area near Chestertown, Md. Performance of steel shot has been compared to that of lead from previous years at the same location and under similar conditions.

The ammunition used was Remington's 12-gauge duck loads with 1-1/8 ozs. of No. 4 steel shot and 12-gauge goose loads with 1-1/8 ozs. of No. 1 steel shot.

Waterfowlers at Remington Farms were encouraged to exercise patience and be selective in their shooting. They were asked to limit their duck shooting to birds at ranges of 40 yards or less and goose shooting to birds at ranges of 45 yards or less.

The majority of hunters followed these suggestions. As a result, a Remington spokesman says there was no significant increase in either crippling rates or number of shells fired per bird taken. In addition, the total number of birds bagged was about the same as it would have been with lead shot.

The message seems clear, Remington says: waterfowl hunting with steel shot can be effective for those conscientious sportsmen who don't stretch their shooting ranges.

While there's been a great deal of progress in the performance of steel shot loads in the past several years, Remington concedes their development remains largely in an experimental stage. A lot remains to be done before steel shot loads approach lead

shot loads in overall performance, Remington technicians say.

Among other problems, the amount of unburned powder residue which occurs in cold temperature firing is still much greater than for equivalent lead loads. As a result it takes more frequent cleaning of autoloading shotguns to keep them functioning reliably when using the present steel shot loads.

Remington is working on an improved 12-gauge 2-3/4" steel shot load which has a heavier payload and performs substantially better than the present steel shot load. The company's objective is to come as close as possible to lead load performance in terms of both gun function and hunting effectiveness.

Low Pressures

The adoption of the steel shot regulations has presented owners of Remington 12-gauge Model 1100 Magnum shotguns with an especially difficult problem. Presently available steel shot loads do not develop enough pressures in the gas system of the gun to operate it reliably.

These shells did not produce pressures equal to the lead loads they are intended to replace. As a result Remington does not recommend any of the existing steel shot loads for use in the 12-gauge Model 1100, 3-inch Magnum shotgun.

For the past three years Remington has been working on a 3-inch magnum steel shot load which will have the required ballistics performance to reliably function existing magnum autoloading shotguns. The company says it is doing everything possible to have this load in production in time to have shotshells available for the 1978-1979 waterfowl hunting season.

Hunters in some designated steel shot areas complained that they were unable to obtain steel shot loads at local ammunition supply outlets. Many retailers had no way of accurately estimat-

ing the local demand for steel shot. Shortages in some areas were possibly matched by an over supply in others, Remington spokesmen explain. Additional experience with steel shot demand in specific areas should ultimately eliminate this problem.

Hunters have asked why shells loaded with steel shot cost about 50 percent more than comparable lead loads. The answer is partly a matter of simple arithmetic. Virtually every component of a steel shot load costs more than that of a traditional lead load. This includes the hull, primer, powder, wad and the steel shot.

Remington anticipates that the cost of these components will come down some as the quantities of the shells sold increase.

The production process itself for loading shells with steel shot currently is more expensive than with lead. While increased production volume in the future should reduce this differential, it will be a long time before steel loads will approach the price of comparable lead loads, Remington claims.

In summary, Remington sees positive indications that:

1. Productive waterfowling is possible with its current steel shot ammunition.

2. Waterfowlers can expect additional improvements in steel shot performance and effectiveness.

3. Future needs for steel shot in specific areas should be balanced more accurately.

Books in Brief . . .

(Order from publisher, not from Game Commission)

Archer's Digest, 2nd edition, ed. by Jack Lewis, DBI Books, 540 Frontage Rd. Northfield, Ill. 60093, paperbound, large format, 320 pp., \$7.95. An overall look at the field of archery, from the basics through hunting everything from fish ("Sharp Carp, Narrow Arrow"), to big game ("How to Become Anti-Antelope"), to dangerous game ("Bowhunting Africa's Big Game").

Big Game Hunter's Digest, by Tom Brakefield, DBI Books, 540 Frontage Road, Northfield, Ill. 60093, paperbound, large format, 288 pp., \$7.95. Brakefield, a Pennsylvanian, is a full-time outdoor writer who has the ability to see things as they are and write about them in a highly informative manner. He tells how to get your whitetail . . . mule deer . . . pronghorn . . . elk . . . moose . . . sheep . . . etc., and his advice is good. It's just as good when he tells how to prepare for a hunt, how to book an outfitter, how to choose equipment. Obviously, this is a "how-to" book, and for someone who's itching to go, that's the best kind as it can make it possible to get the kind of hunt you're paying for.

Combat Handgun Shooting, by James D. Mason, Charles C Thomas, 301 E. Lawrence Ave., Springfield, Ill. 60172, 256 pp., \$24.75. During the past couple of decades, a small but significant number of handgun shooters have shown their mastery of this difficult-to-handle firearm in ways that not even the inflated legends of our early Western gunfighters begin to approach. These men have gone far beyond the traditional target shooting game, creating tough competitions that closely resemble life-or-death situations that policemen and soldiers face daily. In this detailed volume, Mason examines the art and science of defensive gun handling. He objectively compares autopistols and double action revolvers, explains the subtle but vital differences in combat handgun stocks, covers stances and movements, reloading techniques, drawing and firing, conditioning handguns for optimum service, ballistic performance of combat loads, and numerous other areas of handgun shooting as a martial art, and even goes into the physiology and psychology of the handgunner. This is an advanced work about a super-specialty in the gun world, yet it will intrigue anyone who respects superbly competent yet fully controlled physical ability.

Marlin HS Contest Winners

By John C. Behel

PGC Hunter Education Coordinator

PENNSYLVANIA hunter education students have been recognized for their participation in the recent Marlin Hunter Safety Contest. The Pennsylvania Game Commission and the Marlin Firearms Co. sincerely appreciate the additional interest in hunting that is created through hunter education classes.

Hundreds of young hunters were encouraged to spend some time considering "What the hunter, as an individual, can do to help preserve the sport of hunting."

Pennsylvania winners were Bob Eby, Rt. 3, Box 656, Elizabethtown, in the junior category, and Pamela Yost, RD 1, Felton, in the senior category. Each will receive a gift certificate for \$50 worth of merchandise from L. L. Bean, Inc., the well-known supplier of

outdoor sporting equipment. The essays of these youngsters are now eligible for the national competition. Their instructors, Kenneth R. Nissley, Mt. Joy, and Curtis E. Silk, Wrightsville, will receive duplicate gift certificates.

Every entry was carefully read and considered by the judges. Selecting the winners was no easy matter. But in one sense, all who entered were winners, because to the extent that each applied himself to the question, he became a little more of a sportsman. Sportsmanship, after all, is what hunting is all about. The contest complements the Game Commission's SPORT Program (Sportsmen Policing Our Ranks Together) in highlighting sportsmanship, and ethics in Pennsylvania's hunter education classes.

Behel Gets Wildlife Society Award

HUNTER EDUCATION Coordinator John C. Behel, Mechanicsburg, was honored with a Certificate of Recognition from the Northeast Section of The Wildlife Society. The award is for noteworthy contributions to knowledge about wildlife management.

Behel's background, on which the award was based, shows he has been a career employe of the Game Commission since 1948. He originally was assigned as a game protector, where his

work with youngsters, his interest in guns and hunting, and a high degree of safety consciousness helped him start many youngsters "on the right foot." As a result, when the Game Commission initiated its voluntary safety program in 1962, John was appointed Hunter Safety Coordinator.

Behel advocated a mandatory program for young first-time hunters, and in 1969 the legislature passed such a law. John wrote the training manual and created visuals and slide programs for the course, which over 700,000 Pennsylvania youths have completed. Recognizing the growth of anti-hunting sentiment, his classes have stressed hunter ethics and hunter-landowner relationships. He was also involved in the creation of SPORT, and has promoted it with dedication, helping to make it one of the Commission's most successful programs.—*Bob Bell*



MAY IS THE magical month when the outdoors comes alive in a concert of colors, sounds, and smells. Violets and dogwoods accent infinite vegetation and the tender fragrance of apple blossoms softens a breeze which echoes the excitement of vireos, warblers and, of course, gobblers. For the game protector, May is also a mingling of different things . . . a grange meeting, another stakeout, a chance to purchase a new tract for Game Lands, seedlings, hunter education, woodchucks, bears, turkey hunting, an outdoor conservation class, and the Pennsylvania Outdoor Writers Conference.

May 2—Today I received the first bear damage complaint of the year. It involves honeybees, and is the first bear damage report I've had in the Millerton area. A lot of bears have been sighted in the farming section of my district recently. This is probably due to a lack of hunting pressure in this area.

May 3—I attended a grange meeting near Roaring Branch this evening. I showed a movie and talked about the hunter-landowner relations part of our hunter training program. All landowners should be aware that the Game Commission is trying to convince hunters to be respectful of the owners' property and rights. I haven't been invited to many grange meetings, in spite of the fact that the Commission tries to work closely with this group. I sincerely hope I'll be invited to speak at more such meetings in the future.

May 5—I met with LMA Don Watson to tour a tract of land which is up for sale. This tract is being logged off and the contract does not restrict the dragging of timber straight up and down steep slopes. Nor does it call for reseedling of the drag roads. Without these provisions, serious erosion will result. If the Commission bought the land a tremendous amount of money would be needed to correct this problem. We also found that the mineral rights to over half the property are not included. This could mean a catastrophe should certain kinds of mining be conducted after the Commission spent thousands on the surface for wildlife development. Route 15 is also scheduled to be relocated through part of this tract. In view of these problems, I doubt whether the Commission will purchase the land. The situation was a good example of just what is involved in our land acquisition program.



By Jack Weaver

**District Game Protector
Tioga County**

May 6—Cooperators in our Farm-Game and Safety Zone programs receive free tree seedlings. They are delivered each spring by either the Farm-Game manager or myself, depending on which program a person is enrolled in. Those in the Safety Zone program are my responsibility, so I spent the day sorting and delivering orders. The seedlings are raised at the Game Commission's own nursery at Howard. They consist, primarily, of evergreens and shrubs which provide both food and cover for wildlife.

May 10—Biologist Arnie Hayden radioed that a vehicle had driven into SGL 37 near Hills Creek Lake. Arnie heard the vehicle while he was on foot. This is the same area where we had so much trouble with vehicles last year. Arnie and I investigated, only to find the suspected violator was a forester doing a timber inventory of state lands for the Bureau of Forestry. Well, so much for that case.

May 11—This afternoon I met with the sixth grade at the Millerton Elementary School to begin a hunter education course. We run the course over six consecutive days. All the sixth graders take it. This is the only school in my district where I can run a course in this manner. The small number of students enrolled makes it possible.

May 14—Well-meaning people sometimes pull a roadkilled deer off of the berm and drag it into the brush. When they do this, the game protector has problems finding it. Today I searched for two different deer, reportedly hit by automobiles, but was unable to find either one.

May 19—This morning Dave Darby and I headed back into some of the more rugged country in my district to do a little hunting. So far it's been a busy turkey season and I haven't had much time to hunt. I heard three different gobblers and managed to get one in to about a hundred yards three different times. Still, that isn't shotgun range so I guess I'll have to forget them until next year.

May 21—The Pennsylvania Outdoor Writers held their annual meeting in Wellsboro this year and invited the three game protectors in Tioga County to attend their banquet. It was interesting to meet some of these people and afforded us an opportunity to learn more about their profession.

May 22—The Blossburg fourth grade is meeting this week at the Bogaczyk Homestead, an estate with excellent facilities for teaching conservation outdoors. I took each group for a walk through different types of habitat and asked the students to list the animals they thought lived in each location. Later we discussed why different animals prefer different types of habitat, and what might happen if these places disappeared.

May 23—This evening a beekeeper shot a bear which was destroying his hives. I had just left, after investigating his damaged equipment, when the bear came in. Since he chose to kill the bear, the

Commission will not pay him for damages. We do pay for certain bear damage to discourage the killing of bears.

May 24—An important deer case is about to come up in the county court shortly. When a case reaches this level in our legal system, the district attorney or one of his assistants presents it to the court. To familiarize him with the case, I spent the morning preparing a brief. We are fortunate in Tioga County to have a District Attorney's Office that is genuinely interested in game law enforcement. This is not the case everywhere.

May 30—This morning I received the court's decision on a deer case involving four does killed illegally near Roaring Branch. This was the case we won last month before the minor judiciary. It involves witnesses traveling from Boyertown and, in the case of retired Game Protector Paul Ranck, all the way from Delaware. The court found the defendants guilty, so at least we didn't go through all the hassle for nothing.

May 31—Wildlife and people have their conflicts. Today started off with a complaint about a woodchuck eating a flower bed, and was followed by one about another bear wiping out some more beehives. So the confrontations end this month with wildlife ahead, three to one. Wish that it were so simple, but of course it never is.

GAME NEWS

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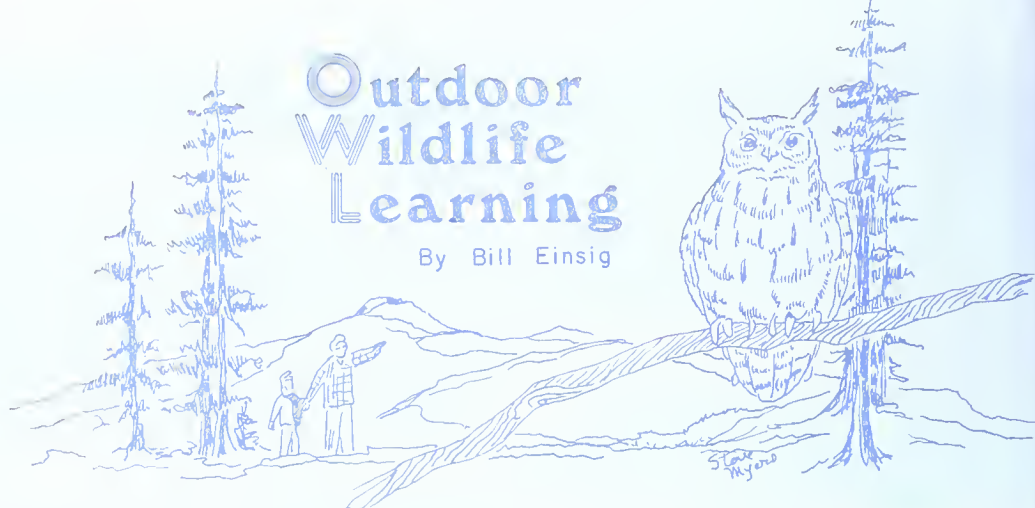
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The School Yard

One of the most valuable resource areas for environmental studies is the lawn or macadam just outside the classroom window. Even inner city schools, bounded by sidewalks and parking lots, have opportunities for valuable nature studies in the outdoors.

The obvious advantage of using areas within walking distance of the school is that the teacher and students can study the area often and in greater depth. In addition, costly bus transportation can be avoided along with all the other logistic problems of taking a class of 30 students away for the day. Also, by studying natural systems and living things in their home communities, students find environmental projects more relevant to their personal lives.

Unfortunately, most schools and most teachers are not familiar with the resources close at hand, and therefore don't make use of them. Some teachers are hesitant to go outside the classroom because they are not familiar with the plants and other features they'll find. Other teachers need ideas of what to do once they get out there. What can be done to help teachers who are willing and anxious to try some new ideas but lack the time to develop effective activities? How can the idea of going outdoors be encouraged by building the teacher's self-confidence?

Probably the most valuable aid is the school site survey. This is a rather comprehensive inventory of what resources are present on or near the school grounds and what activities can be done where. It is tailor-made specifically for each school building and its grounds. Such a survey takes into consideration *all* resources of the area, including physical, ecological and human aspects.

The task can be a massive chore. It can

take the form of a simple listing of trees and shrubs found on school property or it can be a comprehensive study contracted out to a consulting firm.

It is perhaps best to start small and develop the inventory on an on-going basis with as much teacher input as possible. Annual revisions and additions should keep pace with new ideas and refinements discovered by teachers and also offer new incentives for additional activities. If the study is done once and left to rest it will soon become stale and unused.

Formats for site surveys vary from one source to another and it's important to find one that works well for the school in question rather than trying to stick closely to some "expert's" conviction. The information in the survey must be practical, easy to use and easy to revise; beyond that, format style means little. The major objective is to have the project *used* as a constant resource.

One workable outline is that used by Fred Howard and Audrey McGahen in their site surveys for the twelve elementary schools of the West Shore School District, New Cumberland. Fred is a biology teacher for the district and Audrey is an active community resident much interested in environmental education. The following annotated outline is essentially theirs with some minor modifications:

A. General description of school surroundings

Location, address, area of campus, adjoining properties, size of school population, etc.

B. Biotic features

Found on or adjacent to campus.

1. habitats—(lawn, woods, weedy hillside, stream bank, etc.)
2. woody plants—(trees, shrubs, vines)
3. herbaceous plants—(by habitats)

4. mammals
 5. birds
 6. amphibians
 7. reptiles
 8. insects
 9. other invertebrates
- C. Abiotic Features
1. geology—(soil, rocktype, history)
 2. erosion—(evidences on campus)
 3. light—(by habitat)
- D. Man-Influenced Features
- Include here ways in which man has changed the area; e.g., macadam, sidewalks, streets, construction, drainage control, etc.
- E. Notable Features (on or near the campus)
1. historical features
 2. natural and esthetic features
- F. Activities

A list with simple overviews would be sufficient with complete details in an appendix.

G. Walking Field Trips

Same here. Keep the details for an appendix. Let this be a quick reference giving only location, topic and maybe minimal time requirements.

H. Site Map

This should be as accurate as possible and give the names and locations of all trees and shrubs, all campus study features, and still be neat, compact and serviceable.

I. Appendices

These should include detailed activities and field trip suggestions. Revise and enlarge the appendices constantly. Soon they will become the most valuable aspect of the site survey as teachers become familiar with other aspects.

Who should do such a site survey? Ideally, the teachers who will be using it should develop it. However, few teachers have the time during the school day to take on even small projects, much less one of this magnitude. And it simply isn't logical to expect them to give up their personal time to work at school.

The best approach is to convince the school administration to provide time for at least one teacher to coordinate the project. Instead of monitoring lunch periods or study halls, that teacher could meet with other teachers to gather ideas and suggestions and begin some of the data gathering. As teachers contribute lessons and ideas, the coordinator can review, rewrite and collate as needed. Inservice time should be set aside, not only for the development phase but also for imple-

mentation when it becomes extremely important for *all* teachers to know what the survey is about and how it can help them.

Projects like this, frankly, usually depend upon the initiative and energy of one or two people. It's perhaps naive and idealistic to think that many people will jump on a bandwagon when extra work is involved. But if the program is "sold" well—and that's almost what it boils down to—the real values should become apparent. If it is a useful thing, it will be used. But someone must take the first step.

All of this is not to say that extended field trips or visits to more distant areas are not valuable; they obviously are. But effectively using resources close at hand will make a course more interesting, more relevant, and also make those longer trips more worthwhile.

If you have questions or need advice on how to get started, contact Audrey McGahen, 346 B Stone Jug Road, RD 1, Lewisberry, Pa. 17339. She'll be more than happy to lend a hand.

Frustration Time Again!

For the thirty-third year, Penn State will offer a three-week conservation laboratory under the direction of Dr. H. S. Fowler. This is perhaps the best concentrated program dealing specifically with our commonwealth and its environmental problems. Topics include geology, forestry, wildlife management, strip mining, fisheries biology, solid waste handling and sewage treatment, plus many more. Participants, not necessarily all teachers, go home with boxes of freebies, new friends, tons of enthusiasm and a fresh perspective.

What's so frustrating? The class is never filled to capacity. Most conservation districts and the Pennsylvania Federation of Sportsmen's Clubs make money available for scholarships to local interested people. Somehow, communications always break down and most folks are not even aware that money is available and that, again this year, it will go unclaimed.

The laboratory has little money to work with because most donating agencies prefer to award the money through local chapters. Therefore, some initiative is required to find where the money is.

If you're interested, contact your local conservation district, your local sportsmen's club, or Dr. H. S. Fowler, 166 Chambers Bldg., Pennsylvania State University, University Park, Pa. 16802 for details.

You can go tuition free!

Thornapples



Chuck Fergus

IN NATURE'S fields, a great hodgepodge of life is blooming and growing and dying out. Some forms of this life—the larger plants, fishes, birds, and mammals—go through their cycles in conspicuous fashion. Some are a force to be reckoned with: the large predators and the numerically potent creatures like locusts, starlings, rats, and men. But the vast majority of life spends its years—or days, or hours, or minutes—in silent, uncelebrated existence.

Among this silent majority are the fungi.

Fungi, it may surprise you to know, are plants. Unlike green plants, though, they have no chlorophyll and can't photosynthesize their own energy from sunlight and air. Instead, they must live on organic matter. Many fungi are saprophytes, growing on decayed organisms, sapping life from death. Quite a few are parasites, invading and sometimes killing plants, animals, and even fellow fungi. Still others twine among the roots of trees and shrubs in a union which mycologists call mycorrhizal association. This benefits both partners, the fungus getting food, moisture and protection, and the tree or shrub being rewarded with nitrogen, phosphorus, or other nutrients.

The body of a fungus is called its mycelium. The mycelium is a cobwebby network of fine tubular threads, or hyphae, which branch throughout

whatever the fungus happens to be living on, or in. Many fungi live in the soil, while others grow on dead leaves, grass, wood, nuts, pine cones and needles, dung, leather, fruit, flesh . . . the list is practically endless.

Each year, when and if conditions are right, the mycelium sends up a fruiting body: a mushroom. A mushroom is analogous to an apple while the mycelium corresponds to the tree bearing the fruit (albeit a strange, underground sort of tree). The mushroom releases spores—think of them as seeds—which are carried to new locations by wind, water, and insects. If a spore lands in hospitable surroundings, it germinates. It sends out new hyphae, which grow into a new fungus plant, which in turn sprouts new mushrooms.

As a step in a life cycle both obscure and unobtrusive, a mushroom is something of a spectacle: depending on species, it may be brick red, blushing pink, magenta, brown, sea green; it may branch like coral, widen atop its stalk like an opened umbrella, or bracket the side of a tree. It may be coarse or delicate, long-lasting or ephemeral, poisonous or edible. Mushrooms tend to make dramatic appearances: take a grassy meadow, lay on a drenching rain, follow with a spell of warm, humid weather, and—presto! look upon an absolute riot of these otherworldly growths.

In July or August, you'll walk past white-stemmed *Russula emetica*, their red tops gnawed to tatters by squirrels and mice. Or you may discover *Amanita virosa*, stately and white, rising from the pine needles; if you're any kind of a mushroom fancier, you'll know that *virosa*'s virginal beauty is as false as the beauty of a Portuguese man-of-war, that the mushroom's common name is the Destroying Angel, and that, if you're fool enough to eat it, a piece the size of your thumb will kill you dead as a doornail.

Over the seasons, different fungi are pushing up, giving their spores to the wind, and returning to the earth.

If rain accompanies cool September weather, the year's largest number and widest variety of mushrooms will ap-



— DOUG PIER

pear. Among them will be boletes, puffballs, coral fungi, teeth fungi, chanterelles, and stinkhorns. You can find *Polyporus sulphureus*, the Sulphur Bracket, attached to tree limbs like ruffled orange-and-yellow sleeves. If observant, you may spot the dime-size cups of *Cyathus striatus*, the Bird's Nest Fungus, containing their spore-filled eggs. Or the black, tapering stems of *Xylospheera polymorpha*, dubbed Dead Man's Fingers.

A New Wave

With snow and freezing temperatures, the fields of fungi disappear. During winter thaws a few mushrooms may pop up, but they are short-lived. Then, when the quickening warmth of spring takes the land, a new wave of fungal growth appears: gilled mushrooms, cup fungi, false morels, and, those most delectable and prized of all edible mushrooms, the morels.

May is the morel month, although any of the four species found in Pennsylvania may push forth as early as mid-April. Morels—known colloquially as morkels, blackies, whities, pine cones, and hickory chickens—belong to genus *Morchella*. They look something like sponges perched on the ends of short rubber tubes—the kind of tubes on a doctor's stethoscope. Their caps are pitted and ridged, and both caps and stems are hollow. They stand two to five inches, although an occasional giant will tower nine inches above the sod. Morels can be gray-brown, whitish, or tan, shading slightly from species to species.

Where are morels found? A host of theories have them cropping up in old apple orchards, on grassy flats, near creeks, beneath pines or elms or aspens or tulip poplars, and in old burns. Morels have indeed been found in all these places, as well as on lawns, golf courses, cemeteries, and flower beds.

And why the hue and cry over where they're found? Because, quite simply, they are among the best-tasting of nature's foods, ranking right up there with grouse, native trout, and wild strawberries. Consider this: in central Europe during the Middle Ages, peasants had to be constrained from

burning down whole forests to provide what they thought were ideal morel breeding grounds. Also consider how today's morel spots are guarded with tight-lipped secrecy, and how morel hunters drive furtive, roundabout routes to and from prime picking territories.

In May, newspapers around the country carry photographs of rural folk holding out double handfuls of morels. The morel gatherers smirk at the camera or look as if they hope the photographer won't reveal where the mushrooms were picked.

Last May, I showed a friend one of my own morel spots. (Don't ask why; he must have caught me at a weak moment.) On just our second trip out, we found three nosing up at the base of a riotous old apple tree. My friend knelt and gently dug them up with his pocketknife. I could tell he knew what morel-hunting was all about: there was a look in his eyes both fulfilled and keen at the same time—the look of an anthropologist who has just unearthed an eroded tip of bone. He brushed the mushrooms on his shirt and put them in a sack.

I looked around. In the morning light, morels were everywhere. They took shape before my eyes in much the same way that, after I spot one trout finning in a pool, others cease being sticks and shadows and ripples.

As we collected, I kept an eye peeled for other morel hunters. I could (and did) swear my friend to secrecy, but if strangers had happened by, all would have been lost. An hour passed. I was beset with phantom odors of creamed morels on toast, stuffed morels, and—simplest and best—morels sauteed in butter and their own juices. By the time the sun burnt through the mist and the gnats were flying frantic orbits around our heads, we had filled two grocery bags.

This month I'm going back to the same spot. It is a fine, shallow valley, with scattered fields, overgrown and crumbling barn foundations, and scores of old apple trees. But there's no guarantee I'll find morels. I might miss their time of production, which spans but two or three weeks. Or I might find

them toppled by decay, dried by drought, or eaten by insects. Or the morels simply might not come up. While fungal mycelium may live for centuries in the same patch of ground, it won't necessarily send up mushrooms each year: weather conditions and nutrients must click, just so, to set in motion this magic act.

In May, the morel month, few of the poisonous mushrooms are up. The Amanitas still sleep below ground, and *Clitocybe illudens*, the deadly orange Jack-O'Lantern, does not yet glow from woodland stumps and roots.

Seems there can never be a sure thing in nature, though: an imposter's always hiding around the corner, a monarch fluttering among the viceroys. While all *true* morels are edible, a group of *false* morels are not. The false morels belong to Gyromitra, Verpa, Helvella, and related genera. Some are poisonous; they can give you a bad stomach ache, or much worse.

A savvy morel forager also remembers that even true morels can play nasty tricks. Some of the early-appearing morels cause allergic reactions in a few people, especially when consumed with alcohol. These reactions include dizziness and a mildly spastic condition. Personally, I urge no one to collect and eat wild mushrooms; but if a body wants to give this potentially rewarding pastime a try, he

should buy a good identification guide and learn to use it. The best one I know is *Mushrooms of North America*, by Orson K. Miller, Jr., E. P. Dutton & Co., 201 Park Avenue South, New York City 10003.

Enjoyable as it is to eat morels, the real pleasure lies in the hunting. It's the same with foraging for hickory nuts or wild grapes, searching for brook trout, deer, turkeys, or grouse. And just as you learn to recognize grouse cover or turkey terrain, you also get a feel for where the morels will be.

I call it morel cover.

Morel cover is not just tulip poplars or a meandering stream or a broken-down orchard. It's the half-smell, half-taste of unsheathed skunk cabbage. It's clean, bare ground that will teem with jewelweed come July. It's a turkey gobbler flirting on the edge of your vision, weighing spring fever against wariness. It's the cry of frogs in a half-acre bog, with a green heron wading the edge and then crouching and taking off in gawky flight. It's the way the trees leaf out: from the bottomland up the first slope, over the bench, up the final climb of mountain, the leaves pale green as mold on leather.

Being in morel cover is seeing these obvious facets of nature turn themselves to the world. It's also sensing that greater mass of quiet life which stirs and abounds everywhere.

GAME NEWS Cover Prints Available

In answer to numerous requests, we can now supply a selection of GAME NEWS covers in a size and format suitable for framing. A set of four covers, all by internationally-acclaimed wildlife artist Ned Smith, now is available. These are full-color prints, enlarged to 9x12 inches on 11x14 heavy, coated paper, without the GAME NEWS logo. The set includes Ned's woodcock from the April 1974 issue; the woodchuck from July 1974; the doves from September 1972, and the buck and doe from the December 1971 issue. These prints are not available individually. The price is \$3 per set, delivered. Make check or money order payable to Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120.

Accentuate the Negative

By Keith C. Schuyler

Photos from the Author



BECAUSE THEY MUST be within very short range to connect with an arrow, archers try to be inconspicuous. Compound bow is an advantage when draw must be held for a considerable period.

SPRING TURKEY season has been around long enough for those willing to hunt this trophy with bow and arrow to develop some positive negatives. Reviewing the past 10 seasons helps one bring into focus the advantages for archers, if any, as well as the problems of turkey hunting. To sum it up, I guess I'd say the secret is *avoiding* certain things; that's what I mean by accentuating the negative.

Those of us who keep trying have learned much. Unfortunately for us, the turkeys have, too. Since our objective was already one of the smartest

creatures to inhabit this land, adding to its knowledge only further complicates the situation. It didn't need any extra edge.

At first glance it might seem that modern archers with their greatly improved tackle would have it all over the American Indian so frequently depicted with a wild turkey gobbler draped over his bare shoulder. Ha! Those Indians had far tamer targets than the sophisticated gobblers on today's hunting scene.

According to historians, turkeys were quite common and easily obtainable in early America. You could buy one in the New England states for as little as six cents in the early 1800s. They were sometimes seen in migrating flocks of 200 or more.

Turkeys were originally common in 39 states, but by the turn of the past century they were extirpated in all but 18 states, these mostly in the South. Of course, the red man had for the most part gone the way of the turkey. Both he and "old uglyhead" had learned that the white man was bad medicine wherever he held dominion.

After World War II, an effort was made to bring back the turkey in some northern states. Success was slow and erratic. Pennsylvania led the way, and today the turkey has been reestablished in much of its original range.

An important factor in returning the turkey to relative abundance has been the return of heavy timber and its attendant crop of mast—nuts of the various trees necessary to the health and happiness of *Meleagris gallopavo*. Oaks have replaced the once abundant chestnuts which served as a staple for the turkey before blight all but eradicated it. This is important to anyone looking for ways to outwit the turkey.

Not only does the turkey feed heavily on acorns in the fall, but leftover nuts in the winter and spring help keep the birds healthy until the first succulent grasses appear.

It is true that domestic turkeys are descendants of the wild breed. But these birds came from Mexico. In the early 1500s, Spaniards found them already domesticated by Aztecs and took some back to Spain. These were later distributed throughout Europe. It was this strain, imported from Europe, which became popular as barnyard birds in North America. The northern Indians made no effort to tame the eastern variety. The Mexican subspecies, from which domestic turkeys descended, has the white band on the tail feathers common to those in the poultry market.

So there is no mistaking the smartest of the bunch, the eastern wild turkey. It is now 10 years smarter than when the first spring gobbler season was held in 1968. I was in on that one and have contributed annually to the turkey's smarts. This is not to say there has been no improvement in my own knowledge. But the turkey had such a head start that catching up is an intellectual challenge of the first magnitude.

Actually, it seemed that the turkey was made to order for bow hunting on that first opener, with the late Louis Stevenson doing the calling. Lou was one of the country's top turkey callers. He could smooth-talk most any gobbler into a rendezvous. That morning he fooled a 20-pound-plus gobbler through a fan of us to where Harry Allaman broke off the pseudo-romance with a load of No. 4s. But the important thing to me at the time was that the gobbler passed within 40 yards of where I held a bow, and Earl Wise was in between with a camera! Both of us held off in fear of messing up a chance for Harry

or Den Austin, a visitor from Canada.

Actually, calling turkeys in the spring does present the best chance for archers to score. Until that first spring season in 1968, those who called turkeys in Pennsylvania had to do so in the fall. The only advantage to this is that during fall season, either sex turkey is legal game. Calling is much more difficult unless a flock of birds has been scattered, when a wait of an hour or so provides an ideal chance to bring in a bird as the flock attempts to reassemble.

Early Years

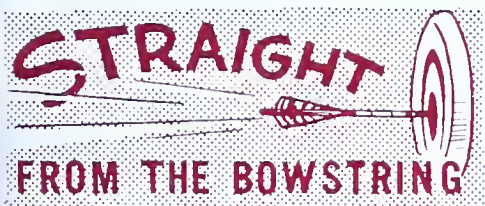
In the early years of the spring season, the hunter was restricted to one bird for the year, regardless of when taken. Today the law permits a turkey of either sex to be taken in the fall, in addition to a bearded bird in the spring. Further, the spring season has been expanded so that this year there are four Saturdays, beginning April 29, and all the weekdays in between. It would seem that the chance to take a turkey with the bow has been greatly improved.

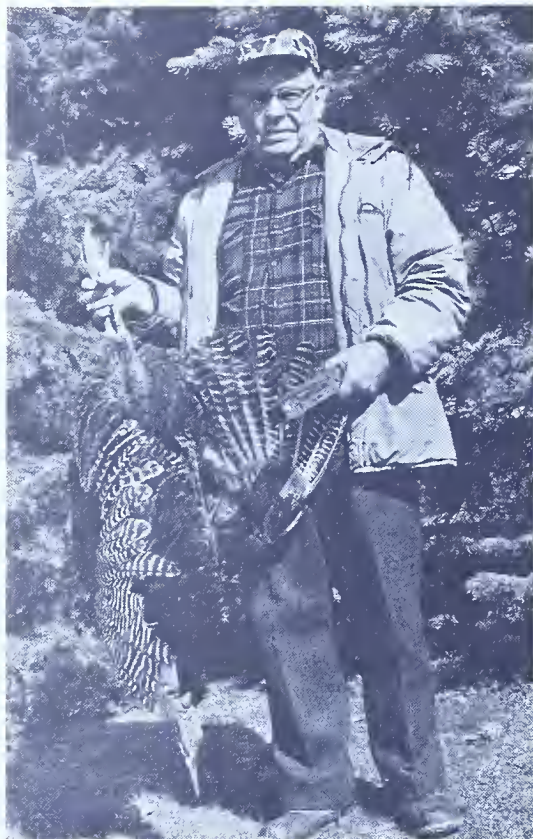
Well, yes and no.

It is certainly true that the Game Commission has done all it can to improve chances. But the popularity of spring turkey hunting has crowded the woods when compared to the first few years of this special season. As a result, the smart old toms get confused by the profusion of fake calls. When a gobbler is confused, he becomes doubly wary despite his amorous urgings.

I once had the unpleasant experience of having two hunters rush in on two gobblers headed my way. The hunters obviously could hear my pleadings as well as the tom-talk when they alighted from a car in full view, but they barreled in on what sounded like a young and an old gobbler. There was shooting, but no shouting. Probably missed. But it sure wasted a Saturday morning for me. (Well, not really—I went fishing.)

Even the gobblers that do respond seem doubly careful. It's not unusual to get an answer from a tom who won't move because he is with a lady or two of his choice. But when you get one com-





THE LATE Lou Stevenson, dean of turkey callers in northeastern Pennsylvania, with a Tioga County gobbler that answered his call. Lou called in many birds for other hunters over several decades.

ing eagerly and he breaks off, there has to be a reason. It could be the calling, but it's more likely that he has spotted or heard another hunter. It must be assumed that there are many newcomers to the sport, and they will learn or give up. Meanwhile, their in-season practice sessions may not improve hunting conditions if you choose the same territory. This is true whether the other hunter or hunters are carrying a shotgun or a bow.

My personal experience has been that it becomes more and more difficult to get a response in areas where I know there are turkeys. This suggests that another approach might be more productive.

What it all boils down to is the fact that serious turkey hunters—and the bow hunter had better be serious—must plan to hit the more remote areas. There is still no guarantee that you will have any part of a territory to yourself,

but the odds improve. Even before you burn up expensive gasoline getting there, however, there are a few “musts.”

First, you should know the territory and know where the birds are most likely to be. They move. There is no certainty that they will be where you should expect them, but play the averages. If you have properly scouted the area and found fresh sign such as droppings and scratchings, and if the feed is good, turkeys should be near. It is best to get in before daylight.

You should know how to call. Whether you use a diaphragm call, box call, slate call, or some other type, learn how to imitate a turkey hen. That is really all you need. I like the diaphragm call because it fits entirely within the mouth and leaves both hands free for the bow.

How Often?

How often to call is debatable. Some experts sound off frequently—but they know the language. The learner might do better to restrict calls to a couple series of four or five yelps no closer than five to ten minutes apart. When you're quiet, you can't make any mistakes. False notes *can* scare off a gobbler, though they won't always do so.

Because the turkey is smart, you will do best to find cover in fairly open woods. It's tough. But gobblers are reluctant to enter thick brush. I had that painfully illustrated several years ago when Fred Paden, who has scored with the gun most of our spring seasons, talked in a gobbler toward my bow. Everything seemed perfect, and the old boy was on his way. But within about 100 yards of my secluded spot, he stopped. After a couple more gobbles all was quiet. We waited a while before checking. That bird had come through the wide open woods to my thicket of young beech trees and refused to take another step!

Turkeys have fantastic eyesight. I'm convinced they see everything there is in the woods, and they're suspicious of everything they see. So the hunter must be as inconspicuous as possible, and it should go without saying that he must remain motionless. There are

times he should not even breathe. This may sound extreme to a neophyte, but any experienced turkey hunter will vouch for its truth.

However you feel about the compound bow, it was made to order for the turkey bow hunter. The ability to hold at full draw for relatively long periods, perhaps a minute or more, is a definite plus factor. You can plan your draw when the approaching bird has his head behind a tree or whatever and hold it until you have a clean, close shot. Even if the turkey spots you and takes off running or flying, you are in position to make the most of it.

Everyone should be aware by now that a broadhead-fitted arrow is legally required to hunt turkeys. Although my personal preference for all other upland game is the regular field head, the very size of a gobbler encourages the use of the most formidable tackle available.

If you have a choice, a body shot is likely to be most effective in trying to stop a turkey with an arrow. Although birds seem able at times to absorb considerable shot before dropping, an arrow has the stuff to stop them in their tracks.

If you can, avoid Saturday hunting to improve your chances. Other hunters in the woods are the greatest deterrent to good hunting, regardless of their behavior. This should be a further clue that, to improve your chances at any time, you should make your presence as inconspicuous as possible. This is true both from the standpoint of visibility and sound.

An old stunt sometimes works if you are early on the scene and have no particular spot picked for your first try. While it is still dark, let out a couple of owl hoots, and then listen. Gobblers will sometimes respond and give away their general location.

If your initial effort doesn't produce a response in the first half hour or so, have plans to move to other areas. But



THE EDGES where thickets and reverting clearings meet are good places for calling, as are wooded ridges when food is abundant. This archer will wait in comfort.

do so with a minimum of noise. It is probably best to hold off calling while on the move since any gobblers in the area may associate the sound with other unintentional noises.

A gobbler that answers but refuses to come your way probably has female company and is merely announcing the fact to bachelors that may have designs on his harem. A good caller might get action by imitating another gobbler under such conditions, but this is edging into the realm of the experts.

Generally speaking, turkeys tend to run the ridges and edges of old farm ground or vegetated burns. Such areas, or strips of brush or trees leading to them, are often your best bet for locating birds. But as in any outdoor sport, there are no positives.

In so challenging a hunting sport, just avoiding as many negatives as possible is the minimum effort required for success.

But Its Bite Isn't Bad

Many lizards can readily shed their tails, evidently to escape danger. The broken-off tail continues to snap and jump, diverting a predator while the lizard flees.

Some Thoughts on Some Gauges

By Don Lewis

Photos by Helen Lewis



JOE SCRIPS, of Shelocta, and his beagle Ringo display a couple of cottontails taken one snowy day during the late season. Joe likes his 12-ga. Ithaca XL900 autoloader for such hunting, and most Pennsylvania hunters probably prefer this big gauge. However, Lewis often carries a Remington 1100 28-ga., or any one of his 20s, because of their lighter weight. He knows they have the ballistic efficiency to handle most rabbit shooting.

THE WEEDS and greenbriars grappled with my boots as I pushed through a dry wash that hadn't seen a drop of water for a month. Close by this parched gulley was a decimated stand of pine trees that boasted more dead trees than live ones. Whatever possessed me to think a rabbit would take up quarters in such a forsaken place is still beyond me. The battle was taking a toll of my new hunting coat and pants, and I decided to move into the pines. Not because my chances would be any better, but simply to ease the struggle.

Two steps from open walking, the briars, weeds, and pine needles erupted as a cottontail streaked toward the cover of the pines. I fumbled off the safety of my Remington 1100 and sent a shot in the direction the rabbit was heading. The load of 7½s sent a shower of pine needles spiraling behind the speeding rabbit, which was gone before I could slap the trigger again. For some reason, the rabbit turned and headed for some briars below me, and I was caught the second time and wasted a shot that did nothing but angle the rabbit into more open country. My third shot was better planned, and a full ounce of 6s saved me from the total embarrassment of missing a rabbit three shots.

Reloading Instinct

My reloading instinct always forces me to hunt for my empties, so I took a long look to make sure the rabbit wasn't going anywhere. One shell eluded me for a minute or so before I found it jammed in a pine limb. While removing it, I became aware of the distance to the rabbit. The longer I studied it, the more convinced I became it was over 50 yards. I doubt if there is any rabbit hunter in the Keystone State that is more conscious of distance than I am, but there was no getting around it. It

appeared I had made a clean kill at yardage considerably beyond normal shooting distance.

My estimate proved a bit high, but it took 46 long steps to get to the rabbit. I was no stranger to the gauge I was using, but it was the longest shot I had ever made with a shell that has nearly dipped over the horizon into oblivion so far as the small game hunter is concerned. To me, that's unfortunate; the 28-gauge is a genuine hunting gun running ballistically far ahead of the little 410 bore and not too far behind the conventional 2¾" 20-gauge. I'll get into specifics later, but I would like to dispel the feeling the 28 is only for skeet and quail and was primarily designed for fragile ladies from the Old South. If that was the case way back then, it's not any longer.

The still-popular belief the 410 bore is the only shotgun for the youngster or beginning female leaves me in a state of frustration. As long as I can remember, concerned fathers and dedicated husbands have put implicit faith in the tiny 410. The advent of the 3" shell for this bore was greeted by shouts of joy along with the false belief the extra length put the 410 on par with the larger gauges. With all the nostalgia behind the 410, it's still the wrong shotgun to give any new hunter. With only ½ oz. of shot in the standard 2½" shell and 11/16 oz. in the 3" case, there can't be much density of pellets in the shot pattern.

Possibly the one aspect that has most dampened my affection for the 410 is the tendency for many hunters to insist on large shot. When I was young, I recall one 410 advocate who stuck exclusively with number 4s, and 5s are a common sight among 410 users. A ¾-oz. load of 4s contains about 100 pellets, and the ½-ounce charge drops to a mere 67. Number 6s would increase the count to 169 in the ¾-oz. charge and 7½s would up the same

weight to 260. Even a ½-oz. string of 7½s contains over 170 pellets. These are not just numbers. There's a dramatic difference in killing power between 67 pellets, for instance, and 175. It's dramatic simply because there will be twice as many pellets in the pattern.

I stick with the theory that pattern density is what kills, and every pellet that strikes flesh contributes in some manner to the kill. It's true the heavier pellets have better ballistic qualities for long range shooting, but small game shooting is generally under 40 yards, and the 410 is far from a long range shotgun shell. A pellet cannot be guided like a rifle bullet, and the hunter must depend on numbers. Consequently, the more pellets in the pattern, the higher the chances will be for success. If the 410 must be used, go with the smaller pellets.

Dynamic Changes

Perhaps I should reflect for a moment on the improvements in shotshells over the last few decades. Some dynamic changes have come about, and both the hunter and competitive shooter have gained immensely from them. Switching from the overshot cardboard wad to the pie or folded crimp was certainly a step in the right direction. The thick overshot wad was held against the shot pellets by a roll-type crimp and often got caught in the middle of the shot charge, causing a pattern similar to a donut. Ballistic experts tried solving the lagging wad problem, and one manufacturer designed a thin, brittle wad that would disintegrate when hit by the shot charge. This was a better arrangement than the original, but the pie or folded crimp ended this problem and brought some degree of stability to what had been utter chaos. Finally, the shotshell was capable of delivering consistent patterns. The folded crimp put more shot pellets in the pattern and put them there evenly.

This upgrading of the shotshell makes it nearly possible to have two gauges in one. To clarify this statement, I have to point out that things have changed drastically inside the case. For



instance, the 12-gauge 2¾" case can now handle a whopping 1½ oz. of shot instead of the standard 1¼ oz. I've fired a few of these little magnums at geese with a high ratio of success and the 16-gauge now throws a full 1¼ oz. instead of the old 1⅛ oz. These two examples show a 20 percent increase in pellet count for the 12-gauge and a 10 percent gain for the 16. That shows the much overlooked 16-gauge is now equivalent to the full or maximum 12-gauge load of not too many years ago.

28 Efficient As Old 20

The same is true with the 28-gauge. My plea for the 28 is based on the fact it now offers just about as much efficiency as the old 2¾" 20-gauge. The 28 in its original design had a capacity suitable for the ¾-oz. load. Now a full ounce can be stuffed in the modern case, which literally means a 33 percent increase in pellets, and that's what I call significant. The 1 oz. load of 7½s I used comes straight from *Lyman's Shotshell Handbook*. In the plastic Remington case, that gives me 350 pellets leaving the muzzle at better than 1200 fps.

I think this shows even the inexperienced shooter what is meant by two gauges in one. I pointed this same fact out about the 16-gauge a few months ago. For the last decade or two,

the 16-gauge has been shoved back in the corner while the modern hunters clamored for the powerful 12 or the 20-gauge. I have nothing against either of these, but it's sort of a sad affair when I know that ballistically the 16 has the edge on the 20 and is nearly on par with the larger 12.

By now, it's understandable if there is some curiosity about how the increase in pellet count came about. Probably, the development of new type wads is the greatest factor, although new powders are less bulky and allow more room for other components. It is unfortunate many shotshell reloading buffs think of wads strictly in terms of filling space inside the case. In reality the wad does a lot more than that. It seals off the gas generated under the shot charge, and it also acts as a buffer or cushion to reduce the damage done to pellets when their own inertia resists the expanding gas.

This may seem minor, but it's very important. The whole idea is to get the shot charge through the barrel with a little disturbance and deformation as possible. Getting rid of the hard cardboard wad out front in favor of the pig or folded crimp was a step in the right direction, but problems were still coming from poor sealing—obturation, as the ballistic people call it. The modern

FOR HIGH-FLYING CANADAS, Lewis is the first to recognize the value of a 12-ga. autoloader such as the 1100 Remington outdoor writer Tom Fegely is using here.



one-piece wad shows some fine engineering. Basically, this new type wad consists of a filler cup to hold the shot and act as a sleeve to prevent pellet damage in the bore, a collapsible unit to absorb ignition impact, and a cone-shaped base similar to the old minie ball of black powder days. This cone or flange spreads out against the bore to make a seal. The sleeve or collar part of the wad saves a high number of outside pellets from being flattened against the bore, but I believe the sealing feature is the new wad's greatest contribution.

Mauled In Choke

All this means that good patterns come from shot charges that have fewer deformed pellets, along with a charge that leaves the muzzle in some semblance of order. In layman's language, the modern shotshell made a modified barrel produce patterns that formerly were delivered only by the full choke bore. There is some room for argument, but I'm close to dead center with that statement. The truth is, the shooter with a tight choke will benefit more from the new wad and shot sleeve than will the open choke fan. It's in the choke section where the shot charge gets mauled around. In an open choke barrel, the wad doesn't have to protect the charge as much as in a full choke.

Taking up the cause for the lost 28-gauge at this late date may have little effect at the sales counter, and it's entirely possible this fine hunting shell may be headed for total oblivion in a few years. Tradition is hard to overcome, and the 28-gauge still is spoken of in terms of skeet and quail. Most hunters think of the 3" 410 bore as a better hunting outfit, though I can't understand why the 410 enjoys a long line of followers while the 28-gauge fades from view.

I enjoyed a rabbit hunt on the last day of the 1977 season with Norm Rowan and his stepson Joe. Both are experienced rabbit hunters, and lean heavily toward the reliable 12-gauge. Joe sticks with the XL900 Ithaca and Norm uses an 870 Remington pump. Weather conditions forced most of the rabbits into holes or very heavy



THIS COTTONTAIL made the mistake of cutting across an open patch of snow within 35 yards of Lewis's 28-ga. autoloader. A few days later it was the main course at dinner.

brushpiles, but we managed to get a couple. Joe made a fast swinging shot with the Ithaca semiautomatic, and I sent a brushpile dweller end over end at 35 yards with the 28-gauge.

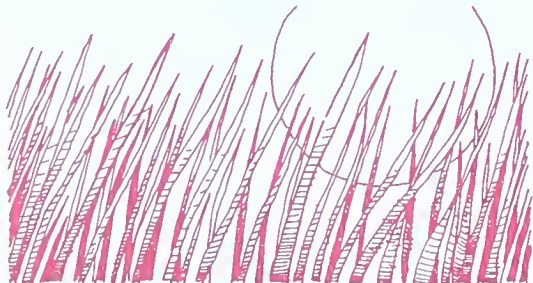
Joe was impressed with my sleek Remington 1100 due to its compactness and light weight. He and I agreed my long kill was probably due to a pellet or two in the head, but I discovered later that six pellets struck the rabbit. Now, one shot doesn't prove anything, but the example adds up on the plus side for a small case that can handle a full ounce of shot.

I am not sure whether my plea for the 28-gauge will produce evidence at the sales counter, but I am sure that the 28 is qualified to be classed as a genuine small game load. Don't shortchange the beginner's chances by following tradition and automatically decide on the 410 when the 28-gauge is still alive and well. When this year's small game season rolls around, Lewis will be following the beagles, and he'll also be carrying a 28 without ever giving a thought to the myth that it's only good for skeet, quail, and fair young ladies.

In the wind

toni williams

information writer



Fuel shortage? Pollution? The Federal Highway Administration has committed \$6 million to help fight these problems by providing another alternative to autos. Several bikeway demonstration projects will be constructed in urban areas across the nation (including Pennsylvania) for commuting as well as recreation.

Michigan's Department of Natural Resources has started to monitor contaminants in wildlife. An intensive program at five test areas will look for heavy metals, pesticides, and so on in deer, raccoon, rabbits and game birds. Many wildlife species can give an early warning of environmental danger. This program, however, has a more limited goal; it was developed "in response to concern by some hunters that game animals may not be fit to eat."

The magenta petrel lives! In case you don't remember, it was last seen about 110 years ago, by an Italian who sketched and named it. But the sighting was never verified by others. Now a New Zealand ornithologist has not only succeeded in attracting three of the birds, but has photographed the species. He says the identification is positive, and other expedition members are there to verify it.

The fisher, a large member of the weasel family, is being restored to its original habitat in parts of New York through a trap and transfer program. Areas from which fishers were driven by habitat changes are again becoming suitable for them.

An Act of Parliament now protects the otter in Britain. That is, it's protected from hunting. But as in this country, the animal still faces the greater dangers of river pollution, greater use of waterways for recreation, and other pressures on its formerly secluded home areas. The otter joins a snake, a toad, a lizard, a butterfly and two bats on the protected list.

The California General Assembly is considering some changes in the funding system of the Department of Fish and Game. Two committees have recommended that license fees be raised regularly by a small amount each year and that some money be taken from the state's General Fund for nongame programs and free fishing license programs. California, like many other states, is struggling with a wildlife budget based on a fixed income from license fees which is no longer able to meet increased needs due to inflation and newly-assigned responsibilities such as nongame programs, environmental impact statement review, etc.

Though more money has become available for wetlands acquisition, it's getting harder and harder to use it these days. Local government groups, often more sympathetic to economic growth than to wildlife needs, are increasingly resisting efforts to buy vital and dwindling wetlands for wildlife refuges, especially in the "pothole" country of the northern Great Plains.

In a courageous attempt to control solid waste, Californians have gone even further than Washington-staters in recent legislation. Essentially, they're discouraging litter before it becomes litter—by taxing wholesalers and manufacturers of items likely to end up as litter and, to a lesser extent, retailers of those items; by adding a surcharge on recyclable items that are landfilled instead of recycled; and by providing more realistic fines and penalties for litter violations to encourage enforcement of the laws. Tax money generated will be used for litter cleanup, research, community recycling centers, and enforcement of anti-litter laws. The ambitious trial program could slow down the loss of wildlife habitat quality and quantity.

IT'S THE LAW



NOT ALL GAME LAW VIOLATIONS ARE INTENTIONAL. AS A SERVICE TO COMMONWEALTH SPORTSMEN, GAME NEWS, IN COOPERATION WITH THE DIVISION OF LAW ENFORCEMENT, TAKES THIS MEANS TO BRIEFLY CLARIFY SOME OF THE MOST FREQUENTLY MISUNDERSTOOD OR LEAST KNOWN GAME LAWS

QUESTION —

HOW SOON AFTER A TURKEY IS KILLED MUST IT BE TAGGED?

ANSWER —

A TURKEY, LIKE A DEER, MUST BE TAGGED WITHIN ONE HOUR AFTER IT IS KILLED OR BEFORE BEING TRANSPORTED FROM WHERE IT WAS KILLED.



QUESTION —

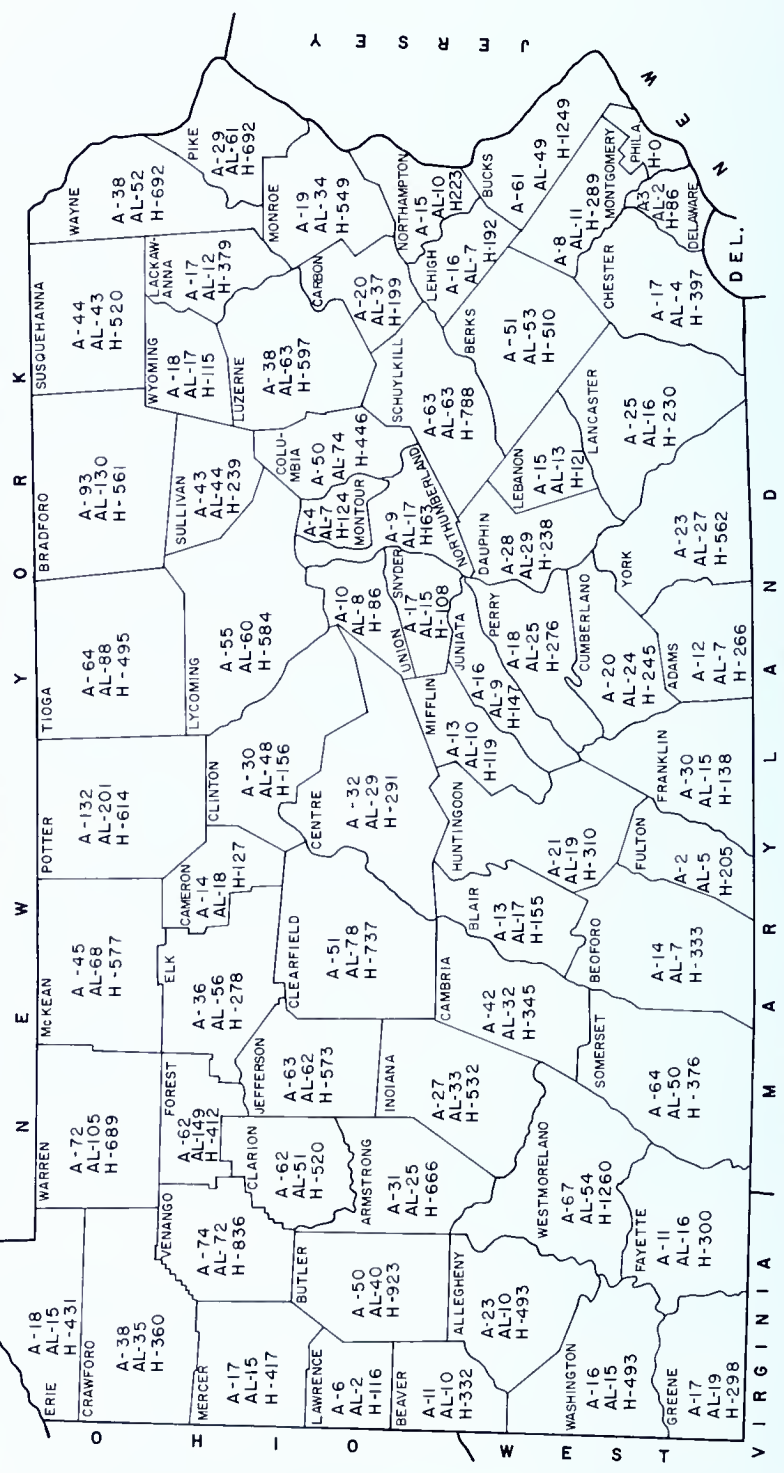
MAY I ENTER A STATE PROPAGATION AREA TO PICK BLUE BERRIES?

ANSWER —

NO, IT'S AGAINST THE LAW TO ENTER ANY STATE PROPAGATION AREA. ONLY LAND OWNERS OR THEIR AGENTS MAY DO SO.

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COVER PAINTING BY NED SMITH

What better symbol of early summer than a meadowlark perched on a weathered fencepost, flinging its clear song to any meadow neighbor who can hear it? This bright, cheering beauty aids man by eating insects and weed seeds, rarely bothering grain. A year-round resident, the meadowlark is related to orioles and blackbirds. Dome-shaped nests in hayfields may be destroyed during mowing, but meadowlarks often re-nest.

Think Defensively

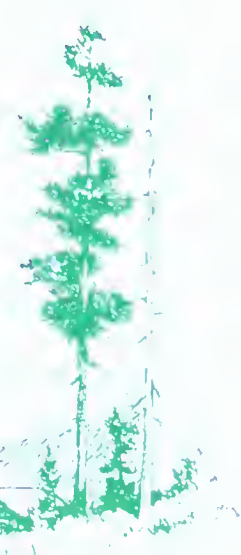
IT'S THAT TIME OF year when hunters get itchy. We had a long cold winter, when it wasn't easy to get outdoors and enjoy ourselves, and there's something about spring which doesn't excite most hunters. But summer is another season. The weather is good, and after the long layoff we're anxious to feel the sunshine on our faces and grass beneath our boots, and to hear a gun go off. Trap and skeet don't satisfy us. Such shooting is not a complete substitute for hunting. Besides, some of us are more involved with rifles than shotguns, so need another kind of target.

Woodchucks are it. This tough little critter has been a favorite of riflemen for generations, and because he's a pest from the landowner's viewpoint, it's usually easy to find places to hunt. However, one thing must be kept constantly in mind: safety. It takes only a second to make an irreversible mistake, so constant vigilance is necessary.

There are some built-in safety problems in chuck hunting. The nature of the sport often puts a person out in a field, sitting or perhaps lying motionless for long periods of time, partly concealed by grass or low vegetation. If another hunter wanders by, there's a chance that he'll spot the first man down yonder. Or rather, the first man's head. From a certain vantage point, that's all that will be visible—just a sort of round, darkish-looking projection somewhere out there in chuck country. Most of the time, the second hunter will take time to examine this object with his binoculars. Just because it looks like a chuck doesn't mean it is a chuck, at least to a safety-conscious hunter. And his magnified view will probably reveal that it's a person's head, not a woodchuck, that he is looking at, and of course he will not shoot. But suppose the second hunter is not one whose first thoughts while afield are slanted toward safety. What if he's one of those who think: There's a chuck, I've gotta get him . . . Bang! That could be *your* head he puts a high-velocity bullet into.

So don't make it easy for non-thinking, fast-reacting shooters to make a mistake. Think defensively. When you take up a position to watch for chucks, ask yourself how *you* might look to another hunter approaching from the rear or side. You might think you're fully exposed—and perhaps you are, from some directions. But what if you're standing or sitting on a sidehill and another hunter comes up the back side. The first thing he'll see as he reaches a point where he can look over the ridgetop is your head. If it resembles a chuck, he'll probably stop to look some more before he ever gets high enough on the slope to see your "fully exposed" body. What if he assumes he's looking at a groundhog and shoots? Sure, he'll be sorry, but you'll be dead.

So how do you help him decide? Easy. *You wear a fluorescent orange hat.* That's the best protection you can get. It's better than a GI helmet (if you don't believe me, get one at a surplus store and whack it once with your 22-250), it keeps the sun out of your eyes, it even keeps the gnats off your head. And it's cheap. For a couple of bucks you can get a hat and an orange vest and be rather well protected. Does it make any sense to spend hundreds of dollars for a scoped rifle, binoculars, etc., then take a chance on losing your life to save five? I don't think so.—*Bob Bell*





Ah, Gretchen

By L. A. King

THE VETERINARIAN had heard him coming along the hall, and carefully ironed his face into proper professional blankness. On the desk had been the carefully arranged X-ray prints and a plastic bottle full of red capsules. The door had opened hesitantly, and he had stepped into the office.

"Ah, yes, you've come about Gretchen. I'm afraid the news isn't good. Here, look at these prints. Two vertebrae almost gone, just shadows. It's cancer."

"So how long does she have?"

"Can't say for sure. Weeks, maybe months. Take her home and give her two of these capsules a day. They're for pain. Ought to hold her till—— When they don't, well—— The aide will bring her."

He had taken the bottle, murmured his thanks, and started for the door.

"I'm sorry. She's a lovely animal." The veterinarian had muttered it so huskily and softly as hardly to be understood, and then swung around sharply to look out the window.

That had been Friday. He had brought her back to her kennel and given her the capsules. She had been all right: no pain. Saturday too. But early Sunday morning she had been out in her pen pacing up and down, crying softly, not able to sit and lying down only briefly. Every time she tried to sit down she trembled and cried out and struggled to her feet again. A capsule had helped for about an hour. A second was good for even less time. Still another was no help at all. He knew then what he had to do.

He had put the round-pointed shovel and the mattock into the car trunk, her old gray army blanket on the rear seat, the pistol on the front seat. Then he had led Gretchen from her kennel, past a window where his wife stood looking

out, one hand at her mouth, and helped her onto the rear seat. But not to sit down, nor even to lie down for long.

Now here he was, driving away from the city along the freeway, south into the hills where they had often hunted grouse together—remembering. And she was mostly standing, precariously balanced on the rear seat, now and then lying down briefly, now and then crying out softly, and always panting, panting.

Eight years ago—only eight?—he had first seen her, an eight-week-old puppy tumbling about the pen with the rest of the litter. He had wanted a male, but the two in the litter had already been spoken for. So he had driven the hundred miles to look at the females. One, more white than liver and with an odd-shaped patch of liver over one eye, had galloped clumsily over to sniff at him when he came to the pen.

"Just like her. She was the first one out of the nest, the first to eat from the dish, too. Always the lively one."

"I'll take her."

And that was how he had chosen Gretchen.

Solemn and Subdued

When he had next seen her she was sitting, her yellow eyes unblinking, solemn and subdued in the top half of a carton labeled Campbell's Tomato Soup, on the back seat of the breeder's car. They had agreed to meet halfway between their homes to make the delivery. Little dog and check duly exchanged, he put her and the carton on the back seat of his own car and drove away. She sat silent, still solemn and now perhaps a little forlorn at all the strangeness. He thought she probably was an extravagance. He was only an ordinary hunter and wouldn't have the time to hunt her as hard and often as

she needed and deserved. Besides, grouse and pheasant and quail weren't all that plentiful where he lived. Yet, he wanted her.

The first lonely night in her new kennel she neither barked nor cried. And she never became a barker. The only times she ever barked were when thunderstorms rumbled and thundered past. Somehow she always knew one was coming before even the first faint rumble sounded, almost (it seemed) before the first cloud. Then she became restless and finally barked wildly, begging for some kind of assurance. He never gave any, insisting that she stay in her kennel during the storms, no matter how frantically she begged. Maybe he'd been wrong. He hadn't been the sort to show much affection to his dogs. For him, he had always said, it was a business arrangement: he took care of them, they hunted for him. He hadn't time for petting and softness.

But she had found a way around his aloofness. For convenience and for comfort in bad weather he had fed her in the utility room of the house. But after a while when he had taken her out to the kennel after feeding, and paused at the gate for her to go in, she instead had begun to sidle up to him and snuggle against his leg. Of course he hadn't been able to ignore that gesture entirely. So, although it hadn't been strictly a business matter, he had given her a pat or two at the beginning. This had grown. Finally it had become a

fixed part of the procedures of feeding and putting her to bed. He wished now he had made more of it.

Generally she had been cheerful, even playful. That is, with him she had been, and with his wife. Strangers were another thing. If they approached her kennel without him, she became a raging, lunging monster. She had become highly possessive of her territory and of him. Only the beagle did she allow to come near him or be petted.

He would never forget, either, how she behaved on her runs in snowstorms or just after a snowfall. Somehow snow set off in her a streak of joyful mischief. She would run great wide circles at top speed and come charging straight at him, ears flying and tongue lolling out, eyes blazing with mock ferocity. But always at the last leap a tiny shift of direction would carry her brushing past him, breast high, and on into another circle. She had loved snow.

She had been a magnificent jumper, too. Now grown into a beautiful, tall 70-pound shorthair, wire fences had been nothing to her. Once he had seen her, running downslope, make a leap of twenty feet to clear a log. And once—only once—he had seen her clear the living room davenport in a chase of his other dog, the beagle, when it had scrambled through under the davenport. She had made that leap only once because his wife had seen it too. Not to mention the teetering and then the crash of a certain blue ginger jar.

Her early training had been routine and easy—yard commands, love of gun shots, and then pointing. And she had learned fast. Soon she had been solid on point, and loved it all. In fact, had loved it so much that once when the beagle had been taken out and she left in the kennel, she had leaped over its five-foot fence and come trailing along behind. Only by installing a netting roof over the whole kennel had he been able to keep her from going with him whenever he went out.

Then there had been her first hunt that fall, for pheasants. He could still smile at the memory of her behavior at the first cock's flight. It had burst out of a tiny bit of cover—coarse grass and a weed or two along a wire fence—as she



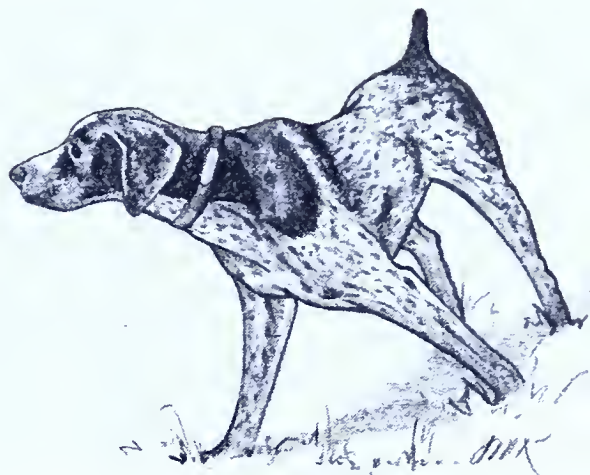
quartered toward it. Just feet ahead of her this thing had exploded with a terrifying clatter and flailing wings. This was no quail. And Gretchen? She had reared up on her hind legs, her front legs and ears wide apart, in total astonishment. But the scent had been intoxicating, and she had not long been frightened, only surprised greatly. Indeed, in the next few hours she had hunted enthusiastically, and found and dug up at least six mouse nests.

Then, in a patch of thick grass about eighteen inches tall, she had started across from right to left close in front of him. Not watching closely, he almost stumbled over her, for she suddenly locked up on point—at a spot just a couple feet in front of him, looking intently to his left. Couldn't be a cock there: too little cover. Likely just another mouse nest. He made a move to step past her, and out of the grass burst a big rooster. A fast swing, a slap of the trigger, and it had gone down. Gretchen galloped out to the fallen bird and stood over it, looking back at him. Of course she had been much praised and petted. And friends had heard—doubtless more often than they liked—of this performance. He had never trained her to retrieve—hadn't thought he had the time or the skill. But as time passed she had learned to find and stand over fallen birds.

A Grouse In a Grapevine

It had been profitable. He remembered how one afternoon, in the hills where they were going now, she had pointed a grouse in a grapevine on the hillside rising sharply above him. It had flushed for her then, and flown above him over the treetops. His shot had not stopped it, and it had flown on toward another valley, apparently untouched. Some moments later, quartering through the cover at the top of that other valley, Gretchen had hesitated, turned aside, and after a few questing steps stood over the grouse lying in the leaves. One shot had pierced a lung and put it down a quarter mile away from where he had shot at it. More than once, later, she had saved birds like that.

There was the time, too, when a



SHE SUDDENLY locked up on point, just a couple of feet in front of him. Not watching closely, he almost stumbled over her. Couldn't be a rooster there: too little cover.

pheasant had got up in a cornfield and then gone spiraling down into the stalks yards away. Gretchen had run out to where it had fallen and then drifted off down the rows as if she had forgotten what was happening. He hadn't been able to understand what ailed her, and had whistled and shouted at her to return to look for the downed bird. But she had gone a bit farther and then stood to look at him. When he got to her, there was the pheasant. It had run a hundred yards before it had collapsed. His hunting partner had been hugely amused: "If you had a more obedient dog you wouldn't get so many birds." It was feats like that which made her worth more than she had cost. To know that birds he would have lost had been saved made her no extravagance at all, but rather a source of warm pride.

He remembered, too, with a sharp pang, the last hunt of the pheasant season just past. They had gone on the last day, more as a concession to her eagerness than anything else, to an area so heavily covered by hunters that it seemed impossible it would harbor any more pheasants. But it had. The first cock had been in a ditch with an overhanging sod edge at the top of the south bank. Gretchen pointed from the bottom of the ditch. There had been others in the cover too, mostly hens, plus a couple of roosters that flushed

wild. Once, she had just started to leap over the trunk of a fallen tree when the scent caught her. So there she stood, one foot on the trunk, her body twisted to the left, her nose taking the scent of the little hen crouched in the branches.

Near the end of the hunt she had worked out a distance ahead of him around the curve of a creek. As he rounded the curve, there she was, rigid, at one end of a patch of cattails crowned with snow, standing in the ice over the water. He had still not fully learned that she knew more about where pheasants were than he did. He had been sure she was mistaken. Fancy a pheasant crouching on that ice. But to humor her he had started in at the other end of the cattails. Suddenly his gaze penetrated a gap in the crown of snow. Pheasants tracks galore down there! And just as this realization got through to him, a ringneck had burst up between them. He took the limit in a couple of hours in a "hunted out" area. That had been the crown, and it had been duly recorded by camera—Gretchen and he with the two roosters. But that would be the last. December was gone. This was April, and there would be no more Decembers for Gretchen and him.

Shoved Pistol Into Pocket

Now they were in the hills, and he turned into the narrow dirt road that led up into a favorite grouse cover, a group of little wooded valleys radiating out from a larger one, like fingers from the palm of a hand. He parked the car and helped her out. She watched as he shoved the pistol into a pocket, draped the gray blanket over a shoulder, and picked up the shovel and mattock. Then they started down the side of one of the little valleys to get up onto the high ridge opposite. She ranged out to quarter as she had done so many times before, but the blackberry canes and downed branches made it hard for her now. Soon she was back by his side, limping, panting. They moved slowly down the valley, crossed the little stream, and started up the hill toward the spot he had in mind. She found it

even harder to climb than to get down the first slope, so they stopped and rested. But she did not sit nor lie down, and occasionally she whined softly. Then they climbed again, and after another stop came to a little cove looking out northward over the big valley.

This was the spot. Comparatively open, it had a few dogwoods and wild crabs scattered over it, and much green grass. Under one of the larger dogwoods he laid aside the blanket and pistol, and began to dig. Gretchen nosed about, and came now and then to watch him, not understanding such activity in this cover. A thunderhead grew in the southwest, and he hurried the digging so that she would not at this very last be terrified by the thunder. At first the clay was moderately soft, but as he dug deeper he had to use the mattock on harder clay and shale. She came back again and lay down, looking at him with her great brown eyes and panting.

Then the hole was deep and wide enough, and soft in the bottom with carefully pulverized soil. He straightened up from the last touches and climbed slowly out. Then he tossed the shovel beside the mattock, and stooped to pick up the pistol, shielding it so that she could not see it. Not that she would have known what it meant—when had he ever hurt her?—but because he just couldn't let her see it. Then he knelt down and laid it beside him. At his call she came and snuggled against him, happy in spite of the pain to be petted. He put his arms around her then for the first time in her life, and whispered to her, "Ah, Gretchen, why—" Then realizing in a rush all that she had come to mean to him, he broke down and sobbed in great wracking sobs. . . .

When the gray blanket had been well tucked and the little mound under the dogwood finished with a flat stone laid on it, he gathered up the shovel and mattock. As the first rumble sounded from the thunderhead, he turned away down the hill, back toward the car.

And it seemed to him that he had never walked so long nor so hard a mile in his life.



The Metro DGP

WOODS COP? DGP Bob MacWilliams, one of several metropolitan game protectors in the state, walks along a Pittsburgh city street in his district.

By Toni Williams
GAME NEWS Staff Writer

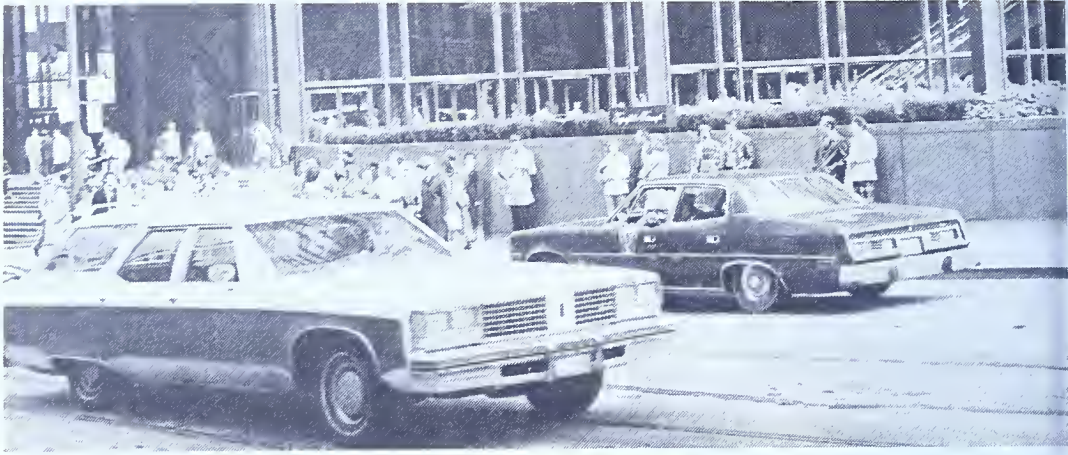
WHEN SOMEONE mentions the game protector—or “warden” as he’s often called—chances are good you picture him something like this:

He’s got a weatherbeaten, sun-rowned face; his hands are cracked and rough from years of trap-checking in icy water, years of working in sun and wind; he probably knows more about the woods and the critters and the arts of hunting and trapping and fishing than almost anyone around.

But would you also envision the metropolitan district game protector—the “metro DGP”? In an urban district, he must at times be more urbane. That doesn’t mean he shouldn’t and doesn’t have firm roots in the woods and fields. The knowledge in which a rural DGP must excel is still necessary in Pittsburgh, Philadelphia, Erie or any other city. Whatever type of district you’re

in, to function well you must be able to communicate with most of the people in your district. And communication requires a common “language”; the man or woman you’re talking to must feel that you understand his or her problems, interests and concerns.

The metro DGP must be able to convince a sometimes sophisticated, sometimes ghetto-bound audience that he knows all about not only wildlife but also city life. He must know the ins and outs of metropolitan bureaucracies, confusing transportation routes, and conflicting, vocal and often sophisticated special-interest groups. Because his district has so many people—perhaps millions—he must be even more able and willing than other game protectors to use mass communication channels like television and radio to reach his audience.



THE GAME PROTECTOR's car with its deerhead decals looks a trifle out of place amidst concrete, steel and plate glass.

Once you have the channels, what do you say to concrete-bound inner city dwellers? It's unrealistic to expect a total, effective inner city educational effort from a DGP already swamped with law enforcement and other educational work, whose understanding of this subculture is unavoidably inadequate. But I feel it's a challenge we must continue to confront. The public's input in resource decision-making is increasing, and all voters can affect the way wildlife is managed. No one can make good decisions without knowledge and understanding of the resource, in this case, the wildlife of Pennsylvania.

It would be hard to say whether the metropolitan or the rural game protector has the tougher job. But the jobs are different. Less different, perhaps, in quality than in quantity. That is, both districts would have deer cases, small animal damage complaints, hunter education classes, sportsmen's club meetings, road-killed deer, wildlife "pet" retrieval, presentations to garden clubs, and so on. But where the rural DGP might spend only 20 percent of his time handling nuisance animals such as squirrels or raccoons, the metro DGP might spend 70 percent of his time on the same job—and have several deputies who devote practically full time to the job, too. The rural game protector spends a lot of time out on patrol, especially during hunting season; the metro DGP, whose district has far less land open to hunting,

probably spends more time driving around trying to serve warrants than he does on patrol.

Like most people, I knew more about the rural game protector than about his city-dwelling brother, so spent a few days in the city with a couple of metro DGPs, and talked to others.

It's not unexpected, considering their backgrounds and the reason many of them applied for Commission work, that trainees at the Ross Leffle School of Conservation (known in the Commission as simply "the training school" or even more simply a "Brockway") wait apprehensively for their assignments, each afraid he'll be the one who gets (to the accompaniment of sinister organ notes in a minor key) . . . *The City*. Grim as that prospect seems to the unlucky few, those who go there seem to adapt well and usually find it, if nothing else, at least challenging. Even the men who try for a transfer as soon as they've put in their minimum time seem to agree that it was a good education, and some find themselves at home there. And even the city game protector has some sparsely inhabited country in his district to give him that "outdoor" feeling.

I've been to Pittsburgh more often than I'd like. Not that there's anything wrong with the city, it's just that it's a city. So I hadn't really expected what I found when I visited DGP Bob MacWilliams in the Pittsburgh area.

Bob and his wife Linda live in a shady little town west of Pittsburgh—well, actually, they live on a rural delivery route which wouldn't look out of place in Potter County. Photographer Joe Osman and I knew we were at the right house when we saw a deer head (a piece of evidence) in the backyard and the traps by the back door. Not much different from any other game protector's house.

With Bob was Trainee Steve Kleiner, on the first of his three field assignments. We started our "typical day in the life of the metropolitan game protector" with a cup of coffee and a chat about the differences between rural and urban districts.

MacWilliams, who has been in Pittsburgh since he left the training school, knew rural district work primarily from his field assignments and from his experiences before he joined the Commission. But his comments were, for the most part, echoed during my conversations with DGP Bernie Schmader. Bernie had started out in Philadelphia, but now works in rural Union County. He and his wife Marge had a good basis for comparison. And Trainee Rich Skubish, on field assignment with Schmader, hails from Philly, so he could draw some comparisons, too.

Always Watching

"Public relations work is even more important here because you just have so darned many people," MacWilliams stressed. "You can't do anything without a bunch of people looking over your shoulder—so you'd better be able to explain what you're doing and why you're doing it; city people generally aren't shy about expressing themselves to authorities. And many of them don't have a background which includes much experience with wildlife, so they question your activities more than a country person might.

"Their lack of experience with wild animals also means they're less likely

than a farmer would be to take care of wildlife problems. Their skills are city skills, and that doesn't include knowing how to get a skunk out of the basement without being bitten or sprayed on. In the city, when you have a problem, you call whatever the appropriate agency is; if animals are involved, that usually means the game protector.

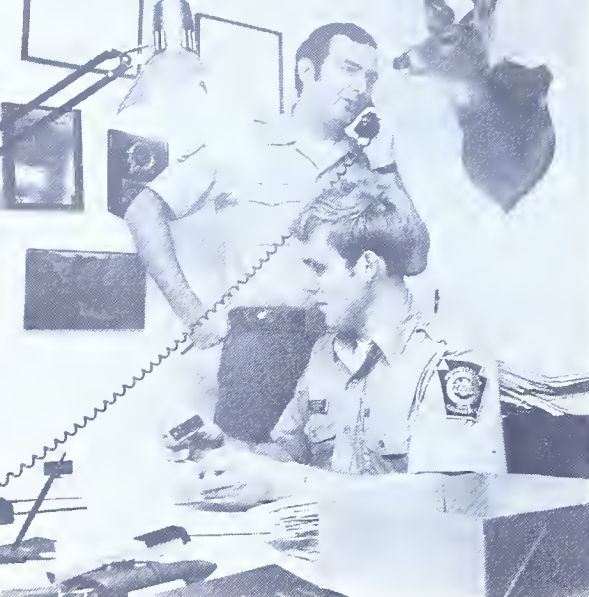
"And city ordinances often prevent them from handling certain problems the way a farmer might. In many places, you can't discharge a firearm—which means you can't shoot an animal even if it's unprotected. And since there are so many kids and pets around, you can't use the larger body-gripping or leghold traps, even if you have one, which most city folks don't.

"All of this explains why so much of our time is devoted to animal damage and nuisance complaints.

"Sometimes you can handle things over the phone. If a fellow has squirrels in his attic, for example, and just wants to be rid of them, you can explain that he can just set a rat trap baited with peanut butter. [Squirrels and raccoons, both game animals, are unprotected in certain clearly defined urban areas.] There are lots of things that people can do for themselves, if they only know how. But other things you have to go out and take care of—or ask one of your deputies to handle."



DGP BERNIE SCHMADER (left) and Trainee Rich Skubish discuss a recent directive. Skubish is from Philadelphia, Schmader's previous district.



MacWILLIAMS' headquarters, where he and Trainee Steve Kleiner handle phone calls and paperwork, big parts of the job.

He had no trouble giving me an example of his nuisance animal traffic. Earlier that morning, MacWilliams related, he'd heard the phone ringing while he was bathing. Draped in a towel, he rushed out to answer it. No sooner did he hang up than it began to ring again; this continued for at least twenty minutes. Each phone call takes a minimum of a few minutes, and some require a half-hour or more, and MacWilliams says he gets 20-25 raccoon calls a day at some times of year. Each visit to a home requires a couple of hours.

While we sat there, a woman called. She'd called several other agencies and received no help. She said a raccoon had been digging up her lawn and making a mess. Five minutes later, the phone rang again: another 'coon complaint. This time the caller said "the little bandits" were getting into her garbage cans. She also reported there had been about a dozen raccoons on the roof the previous night. A few minutes later, a fellow called about fox hunting.

A city game protector needs a good phone personality.

And he has to have some judgment about how to spend his time. One metro game protector won't go out on an animal nuisance complaint unless the caller can tell him what kind of animal is involved. "You just can't afford to," he explains. "You might get

out there and find the equipment you've brought is worthless for that particular animal, which means going back home and starting over. And you'd be surprised how many people can't tell you what's making those noises in their basement or attic. Sometimes they don't know enough about animals to identify it, or they're too scared or sometimes even too lazy to go find out."

A game protector or deputy may suggest the homeowner buy a live trap at a hardware store, and will explain how to use it. If the officer has the time, or the caller is elderly or disabled, he may set and check the trap personally; otherwise, the officer will help the caller to help himself. There's a twofold reason for that; not only does it save the game protector or deputy some time which may be in short supply, but it also, as MacWilliams explained, "helps get the people themselves involved. Maybe they'll learn something, and they'll certainly have a new experience or two."

For example, he told me of a family he'd worked with recently. They'd had problems with a raccoon, which they trapped after some help from MacWilliams.

"They learned a lot about the animal," he explained. "It became a family project to set and check the trap. And when they caught it, they all went out to the country together to release it—a trip they seldom make. If you make the people work at it in some



PLASTIC-BAGGED garbage attracts raccoons. If a homeowner can't discourage or trap offenders himself, the DGP may help out.



LOOK LIKE WHITETAIL HABITAT? DGP MacWilliams interviews an eyewitness to an illegal deer shooting that occurred here.

way—make them participants—they appreciate it a whole lot more than if you just do everything for them.”

“Do you ever get anything besides raccoons and squirrels around here?” I asked.

“Oh, sure,” he replied. “This place abounds with wildlife.”

Downtown Deer

I became a believer when we drove to Coraopolis later to investigate a deer shooting case. We pulled up to a high chain-link fence by a set of railroad tracks, across the street from the Middletown Tire Company. Hardly typical deer habitat! Somehow, the deer had wandered into town, run across the tracks, and careened into the fence. MacWilliams showed us the deep dent where it hit. The deer was stunned, and although no injuries were apparent, it remained there motionless for a while. Shortly, a man happened along and shot the deer three times in the head with a 22, acting, so he said, on the instructions of God. The unnecessary—and illegal—shooting was reported, of course; had the animal been given time to collect itself, it would probably have ambled off, little the worse for wear except for an impressive hangover.

That afternoon we searched for the remaining fired 22 cases he'd been unable to find before, and MacWilliams talked to eyewitnesses. Imagine that—an illegal deer kill in the heart of downtown Coraopolis!

But evidently downtown deer aren't that uncommon. They occasionally wander into Philadelphia, for example.

DGP Bill Wasserman (north Philadelphia and south Montgomery counties) described a couple of run-ins he's had with deer, including one which jumped through a window and into bed with a rather startled resident.

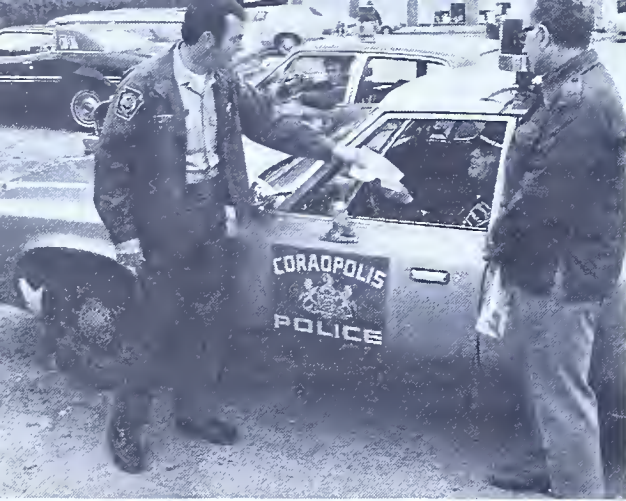
DGP Sam Lockerman's biggest headache this winter came from deer pushed by harsh weather into suburban parts of his north Allegheny County district. Some who suffered losses of ornamental shrubbery could have been helped to avoid the problem, but by the time the officer was brought into the situation, most of the damage had been done, and there was painfully little he could do to help.

And then there are skunks and opossums and chipmunks which seek shelter in homes where they're rarely welcome. Free-roaming dogs create problems, and when they're harassing game, the problems become the game protector's.

Birdfeeding and -watching are common activities in the city, and in winters such as we've experienced lately, concentrations of small birds at a feeder attract hungry raptors. The lover of songbirds often draws a line at hawks and falcons, and calls the game protector for help.

“What can you tell them except that they're awfully lucky to be feeding such a variety of beautiful birds?” Wasserman commented.

And then there are bats. Few homeowners appreciate the ecological values of these little insectivores—and even if they do, they'd prefer to protect them somewhere other than in their own attic.



MOST DGP's TURN to local police for assistance on occasion; the metro DGP is no exception. MacWilliams and Coraopolis PD Officer Lou Lucenti (in car) discuss a warrant with J. P. Vince Buteri.

There's a surprising variety of animals besides the pigeons, sparrows and squirrels which city wildlife usually comprises. About the only major species that don't show up are bears and turkeys. But *humans* remain the creatures which the metro DGP deals with most often.

Another aspect of having a lot of people in your district is that you spend more time than the average DGP in serving warrants. Just finding residences can require a lot of perseverance and imagination. Deputies can be especially helpful here, since many of them are local folks who know their neighborhoods well. Local police are helpful, too, and generally appreciate it if, as MacWilliams suggested, "you're sensitive to their jurisdiction."

As it is anywhere, serving warrants in the city is time-consuming, often frustrating, and sometimes dangerous. To all too many people, any uniformed officer is an object of disdain, something to be eluded, harassed and threatened. As we drove around, MacWilliams commented on some of the precautions he's learned to take while serving warrants. "Last year we had some pretty serious riots in this area, and that's an example of why we have to be constantly on our toes."

During the coming week, he went on, they'd probably spend at least one whole day trying to locate people to serve warrants on.

Finally we arrived at the office of Justice of the Peace Vince Buteri for a hearing which had been scheduled earlier. After waiting around, we learned the defendant wasn't going to appear. He apparently couldn't locate a suitable attorney. This kind of delay isn't unusual, MacWilliams explained with a sigh. "We set up hearings for three different days sometimes."

On the way to the car, we chatted with Coraopolis Police Officer Lou Lucenti. I asked about no-shows such as the one we'd just experienced. He said he averaged about 50 percent. MacWilliams' percentage of no-shows, he said, was more like 80 percent. And each time this happens, the game protector has lost more time.

Of course, metro DGPs spend many hours on routine patrol in outlying areas, just as in other districts. On our way out to Raccoon Creek State Park, where I camped overnight, we noticed a couple of bowhunters walking along the road. MacWilliams and Kleiner stopped to check their hunting and archery licenses, and chatted a few minutes to find out how they'd been doing.

MacWilliams and Kleiner looked a little more at home in the park, and showed their stuff by flushing a grouse on the way into the woods as we searched for a good tenting spot in the designated "Primitive Area." And darned if they didn't flush four more the next morning when they picked me up!

Phones and Paperwork

But then we got back to the office and the ringing phones and—sandwiched between calls—the reports that every game protector has to fuss with, no matter what type of district he has. Then out for a quick lunch before stopping by the photo store to pick up enlargements of a crime reenactment. Having easy access to processing labs is one benefit of the city district.

There are other benefits, and fortunately there are always a few game protectors who appreciate them.

Though Erie is the state's third largest city, DGP Andy Martin's dis-

trict (Erie city and the northeastern triangle of the county) is less totally urban in character than Pittsburgh or Philadelphia. He describes it as "a city with a small-town atmosphere" and says he's really fallen in love with the area. He, his wife Joan, and their three children live in what could only be described as the archetypal suburb. The only thing distinguishing their house from any other in suburbia is a handsome sign out front saying "District Game Protector." (Not always a popular occupation in these districts, which seem to have a greater than average component of anti-hunters and preservationists. Metro DGPs must be constantly sensitive to such feelings and try to involve these people in agreed-upon goals such as saving habitat. It's an interesting challenge.)

We drove through the city several times, but spent more time out in the surrounding "country." One day we started out to pick up a few deer which had been hit by a train, and spent most of the day recovering seven, from which he removed jawbones and embryos. (All game protectors and deputies do this when possible. It gives information about the age and sex structure of the herd, and helps determine the reproductive rate, on which antlerless license allocations are partially based.) Some of the animals weren't dead when we arrived, but were badly mutilated and had to be shot.

By the end of the afternoon, we'd found or been told of approximately forty more deer in that small area—some alive and feeding in an orchard on the other side of the railroad trestle, some which had been hit by the train, and many which had been shot. All of this near or in a lonely, deep chasm which could as easily have been in Tioga County as in Andy Martin's metro district.

We barely had enough time left after handling the deer to take our skis over to SGL 218 (the Siegel Marsh area) where I'd hoped to get pictures of other cross-country skiers; Martin told me quite a few people visit this State Game Lands in the winter, even though the



DGP ANDY MARTIN of Erie prepares a slide program, one of many he'll give this year. All DGP's give such programs; more people in the city just means more programs.

tours and programs in the Visitors Center are discontinued when snow blankets the area. But I guess it was too close to dinnertime; although we saw tracks everywhere, the area was deserted—almost desolate—though it's only a few miles from the city line!

We returned just in time to grab a few bites of supper before we had to leave again; both Andy and Joan had classes that night, at different schools (another advantage of the city!). On the way, we discussed his activities and he, too, stressed the importance of using time and energy effectively through an active program of mass communication. He's encouraged in this by Game Commissioner Bob Sutherland, news director of WJET television in Erie.

Reaching the People

"In a city district," Martin explained, "you have to fight for a high profile, or you'll never get the Game Commission's message across to enough people. In less populated districts, you may be able to accomplish the same thing by going to a lot of meetings and speaking to school groups, but there are just too many people in the cities to reach in that way, and too many other worthy organizations and agencies competing for that audience. You have to use the most effective means available—in the city that means mass communication."

Martin is no stranger to radio, TV or newspapers in his district. When I

asked how he divided his time, he had no hesitation in identifying "the broad category of public relations"—radio and television appearances, interviews and information for newspapers, speaking to groups, giving hunter education courses and school assembly programs, etc.—as his number one activity. (Law enforcement ran a close second, with nuisance animal work third.)

Was it tough for a basically outdoors person—a fellow who grew up thinking hunting, fishing and camping were the only legitimate activities for any reasonable man or boy—to push the conservation message in so highly visible a way?

"Not for me. Oh, in the beginning, I was kind of nervous and I made a lot of mistakes. But as you get used to it, you become more relaxed and comfortable. I've always enjoyed people, even through the barrier of a microphone or camera."

Deputy game protectors are crucial to any game protector; it is literally impossible for him to do everything in his district. And good deputies become, if possible, even more important in an urban area where there are so many

more individuals expecting services. Martin is enthusiastic about his deputies, and depends on all ten of them.

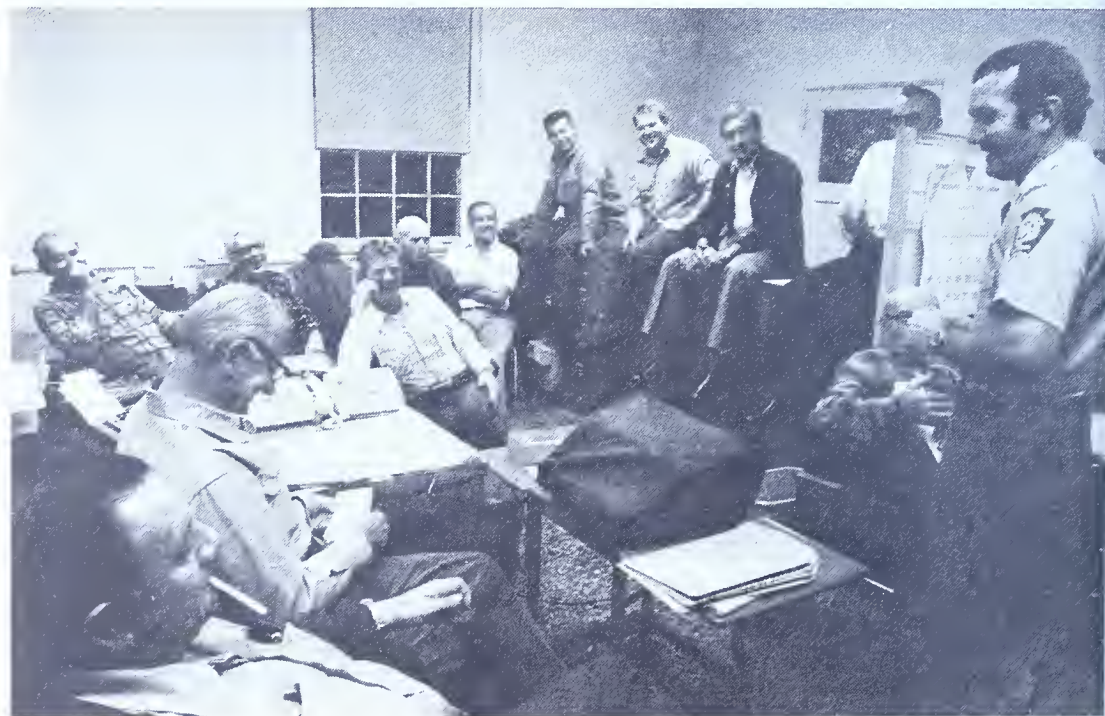
"In a district like mine, you *have* to have a good deputy force. My people are very competent, and they're outgoing, people-oriented guys; that's especially important here where most of your work is with people."

Wasserman echoed Martin's feelings about the metro DGP's dependence on the volunteer work of deputies; his force includes seventeen men. "*No way* could I get along without their help!"

Every game protector across the state will tell you his problems are more with people than with wildlife. So metro DGPs aren't alone. It's just that the people in their districts are so numerous, and that they so often have a different slant on things from rural Pennsylvanians. The metropolitan district is a real challenge, and the metro DGP seldom has a dull day.

But I think at times Bill Wasserman would trade ten raccoons-in-the-garbage for just one good old-fashioned beaver-dam-in-a-culvert—and maybe throw in a couple of squirrels-in-the-attic for free.

EVERY GAME PROTECTOR, metropolitan or rural, depends heavily on a trained, enthusiastic deputy force whose work is virtually unpaid. MacWilliams here conducts one of several deputy training meetings held each year.



Bradford Hunting Club 100 Years Old

By Paul T. Roussey

HUNTING IN Pennsylvania has been a way of life and a family tradition with many of its native sons throughout the years. Generations ago it became popular for family members and friends to get together during deer season to hunt with one another.

In Centre Hall, in 1878, a group of men got together to form the Bradford Hunting Club. Members of this club have continued to meet and hunt in Centre County for 100 years.

The following is quoted from *Centre Hall, Centre County, Pennsylvania*, a book published by the Centre Hall Fire Company and copyrighted in 1942 by William W. Kerlin.

"Wild game is usually abundant and thousands of hunters roam the fields, woods and mountains, each autumn, in quest of birds, rabbits, squirrel, deer and bear.

"Dozens of hunting cabins are erected in the mountains by hunting parties who frequently enjoy weekends during the summers, and of course, make their headquarters in these cabins during the hunting season in the fall.

"The Bradford Hunting Club has the distinction of being the oldest organization of this character in this part of the state. For the following history of the club, we are indebted to W. Frank Bradford, a charter member.

"The Bradford Hunting Club was organized in 1878. Charter members were: Emanuel Fye, J. C. Kuhn, William H. Meyer, James Poorman, William Bradford, George W. Bradford, Charles H. Bradford and W. Frank Bradford.

"The first log cabin was built in the fall of 1878 at what was then known as Point of the Laurel, in the Bear Meadows (Seven Mountains).

"In 1881 the cabin was destroyed by fire but the party continued to hunt, each fall, in the Bear Meadows territory until the fall of 1885, when they started camping at Stone Creek. The Bradford Hunting Club continued to camp in this territory, in tents, until 1917 when their present substantial and attractive cabin and camp was erected in the section of the Seven Mountains known as Pole Bridge."

The camp location in the book was described as the Pole Bridge area. A more



up-to-date description would be, Camp #5C210, Boal Gap Road, Seven Mountains, Centre County. We still use the same cabin that was built in 1917 but improvements have been made to it over the years.

The present camp membership is as follows: Dean G. Bradford, Eugene Bradford, Nelson Bradford, William Bradford, William Clauser, Paul Lajanski, Alfred Roberts, Paul Roussey, Dean A. Bradford and Harold Bradford.

Over the years, many happy and successful hours of hunting have been enjoyed in the woods around our cabin, and many hunting tales and yarns enjoyed within it.

In 1978, our club's centennial year, we pledge ourselves to uphold the tradition of hunting sportsmanship and friendship that was expressed by those fine Pennsylvania sportsmen who were members of our club during its first 100 years.

We also would like to thank the Pennsylvania Game Commission for making Pennsylvania one of the best hunting states in the country, thus making it desirable for hunting clubs like ours to flourish.

If the cooperation that has taken place between the Game Commission and the hunters of Pennsylvania continues, then the sons and grandsons of the members of our camp will continue to be provided with a good place to hunt that abounds with game. And perhaps 100 years from now a similar letter will be written.



Herb-Robert



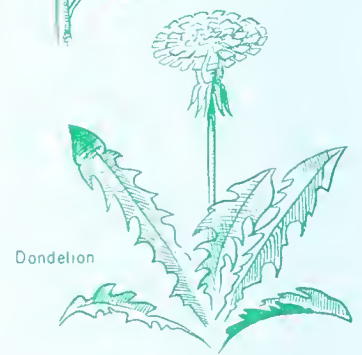
Common Sunflower



Cottontail



Chickory



Dandelion



Common Milkweed

Don
Phillips



Arrowhead



Pokeweed

Hunters' Wholesome Weeds

By J. Almus Russell

Photos by the Author

EDIBLE WEEDS are yours for the gathering. Hunters can find them everywhere. Their food value is excellent. Moreover, they reduce the budget and add variety to camping and home meals.

Breads, salads, and potherbs. Flowers, condiments, and spices. All of these are part of nature's food bonanza.

Breads Flours, meals, and pollens derived from weeds may be substituted in whole or part for wheat flour or cornmeal.

Salads Nature provides many varieties of leaves, roots, tubers, and flowers for salads. Springtime leaves and fall tubers are more desirable.

Potherbs Stalks, leaves, roots, flowers, and tubers may be used. The tender parts of the plants should be cut in the spring. The fleshy stems and leaves are preferable for good eating.

Flowers Flowers have an important part in weed cookery. Preserves, wines, food, medicines, teas, and flavorings may be made from them.

Condiments Weed substitutes provide acceptable pepper, salt, spice, and pungent seasonings.

Beverages Woodland teas, coffees, fruit and health drinks are available for the making.

Breads

Purslane Purslane is a running garden weed which provides seeds similar to buckwheat. Sieve, winnow, and grind the dry seeds into flour. Use it half-and-half for griddle cakes.

Cattail Cattail roots are high in protein and carbohydrates. They provide nutritious flour when used half-and-half

with wheat flour. The pollen is used in the same way.

Wild Rice Gather wild rice grains in midsummer or early autumn from the plants overhanging ponds and streams. The dried grain may be ground into flour for bread, used to thicken soups, and as a breakfast food.

Wild Sunflowers Partly parched seeds of the wild sunflower are dried, then ground into flour for breads and cakes. The flour retains the oil and protein content.

Great Bulrush The great bulrush grows in ponds and marshes. Gather roots in fall and early spring, dry, grind, and mix with bread flour.

Salads

Watercress Watercress may be gathered in almost any month except January. Leaves and stems may be eaten raw with salt. As a relish, it may be dressed with sugar and vinegar, or mixed with a salad. The flavor is peppery like that of domestic cress.

Dandelion The tender bitterish spring leaves are cooked as a green with salt pork, then seasoned with black pepper. Raw leaves are served as salad.

Arrowhead The arrowhead grows in brooks, in marsh mud, and along the edges of ponds. Its edible tubers are prepared like potato salad.

Wild Artichokes Wild artichokes yield tubers as large as medium-size potatoes. They make a salad rich in insulin and low in starch.

Chicory Gather chicory leaves while they are very young to avoid bitterness. The white underground parts of the leaves make an excellent salad when

Game Recipes Requested

We are planning to publish a paperback book of game recipes. Over the years we have received numerous recipes from GAME NEWS subscribers, and our mail indicates many readers are interested in this subject. Doubtless you have favorite recipes of your own. If you have a recipe for any game bird or animal which your family particularly likes, we would be glad to see it. No payment can be made for such material, but if we use your recipe we will give you credit as the contributor. Recipes should be typed or carefully printed on one side of the paper only, following the conventional format for such items. Submit to: RECIPES, Pennsylvania GAME NEWS, P.O. Box 1567, Harrisburg, Pa. 17120.

washed. Dress with oil and vinegar.

Potherbs

Wild Onions Wild onions have slender quill-like leaves with small bulbs at their bases. Gather bulbs in late autumn or early spring. Boil entire plant—leaves and bulbs—as a potherb. It grows in rich meadows and thickets.

Lambs Quarters A close relative of spinach. Collect young tender plants, less than a foot high, from midspring to frost. Cook longer than spinach but do not parboil. Season like spinach.

Pokeweed Young spring shoots may be fried when about six inches long, or steamed like spinach and horseradish, or cooked as greens.

Common Brake In the spring, before the young fronds are fully uncurled, the common brake or *crozier* is ideal as a spring green. Draw through hands to remove the woollike covering, then wash and bunch like asparagus.

Chicory Young chicory leaves may be cooked for greens. The young whole top may be boiled. The peeled roots, cut crosswise and boiled, are flavored like parsnips.

Flowers

Basswood The basswood bears flowers with the fragrance of orange blossoms from which the bees make choice honey. A well-flavored, soft, and sweet tea is also made from the blossoms.

Milkweed Stew milkweed flowers for a preserve. Use to thicken soups or prepare as fritters.

Elder Blooms Dip blossom panicles in batter to make delicious fritters. Beat

blossoms into the batter to lighten cakes and impart a distinctive flavor.

Dandelion Blows Dandelion blossoms were picked in April “in the decrease of the moon” and made into a regional wine called *dandelion blow*.

Red Clover Red clover blossoms are of medicinal value when infusions are made from fresh flowers. This tea has a demulcent action which is said to loosen coughs, ease the breathing, and a remedy for asthma and bronchitis.

Condiments

Pepper—Meadow Arum & Smartweed The dried seeds of the meadow arum are a pepper substitute. Dried seeds of the smartweed are ground up for pepper. The peppery leaves are used for salad.

Salt—Herb Robert & Cow Parsnip Pick leaves of the herb Robert, pulverize by burning, use ashes as a salt substitute. The hollow basal portion of the cow parsnip is sprinkled on food.

Spice—Wild Allspice The bright red berries, leaves, and small twigs are ground and used as a substitute for allspice.

Pungent Seasoning—Black Mustard The ripe seeds, dried in the sun and ground, provide a satisfactory English mustard substitute.

Beverages

Tea—Checkerberry Mature fresh green leaves of the checkerberry (wintergreen) are steamed in hot water until the brew has an aromatic flavor.

Basswood Flowers Basswood flowers have the fragrance of orange blossoms. The dried flowers are steeped for a health drink.

Coffee—Dandelion Dandelion roots, cut into small pieces, may be roasted to a dark brown for a woodland coffee. It is about twice as strong as commercial coffee.

Ade—Red Sumac Red sumac berries, picked in midsummer, are bruised in water with a potato-masher. Simmer for a few minutes, strain, sweeten, and chill.

Switchel—Wild Ginger This is a haying-time drink, chilled but not iced, to be drunk freely in hot weather, spiced with wild ginger.

Burdock Bitters Burdock Bitters is a health drink, supposedly cleansing and purifying the blood.

Recipes

Cattail Pollen Pancakes

1½ c. wheat flour, sifted
1½ c. cattail pollen
1 tsp. salt
1 tbs. sugar
4 tsp. baking powder
1 egg
2 c. milk
1 tbs. melted fat

Sift dry ingredients together. Beat egg in milk. Add to dry ingredients. Add a little more milk if the batter seems too thick. Bake on a lightly greased griddle.

Sweet-Sour Dandelion Salad

3 quarts dandelion greens
4 slices of bacon
½ c. cream
¼ c. vinegar
5 tbs. sugar
1 tbs. flour
1 hard-boiled egg, chopped
⅛ tsp. salt

Wash greens thoroughly, removing any buds. Shred coarsely. Fry bacon slowly until crisp. Remove from pan and crush into bits. Mix cream, vinegar, sugar, flour, and salt. Add to the fat. Bring mixture to a boil, stirring constantly. Pour over the greens. Garnish with the chopped egg and bacon.

Fried Poke

2 quarts spring shoots
½ c. fat
½ c. white cornmeal
Salt and pepper

Heavily peel the young spring shoots. Roll in seasoned white cornmeal. Fry in fat until brown.

Fried Elder Blossoms

6 elder blooms
1 c. flour
1 tsp. baking powder
⅛ tsp. salt
1 egg
½ c. milk
Hot fat

Wash blossom panicles. Leave 3-inch stems. Dip blossoms in batter. Fry in deep hot fat.

Horseradish Sauce

3 tbs. freshly grated horseradish
1½-tbs. vinegar
¼ tsp. salt
½-tsp. black pepper
¼ tsp. sugar
⅛ tsp. red pepper
4 tbs. heavy cream

Mix horseradish with vinegar and seasonings. Whip cream into mixture just before serving.

Haymaker's Switchel

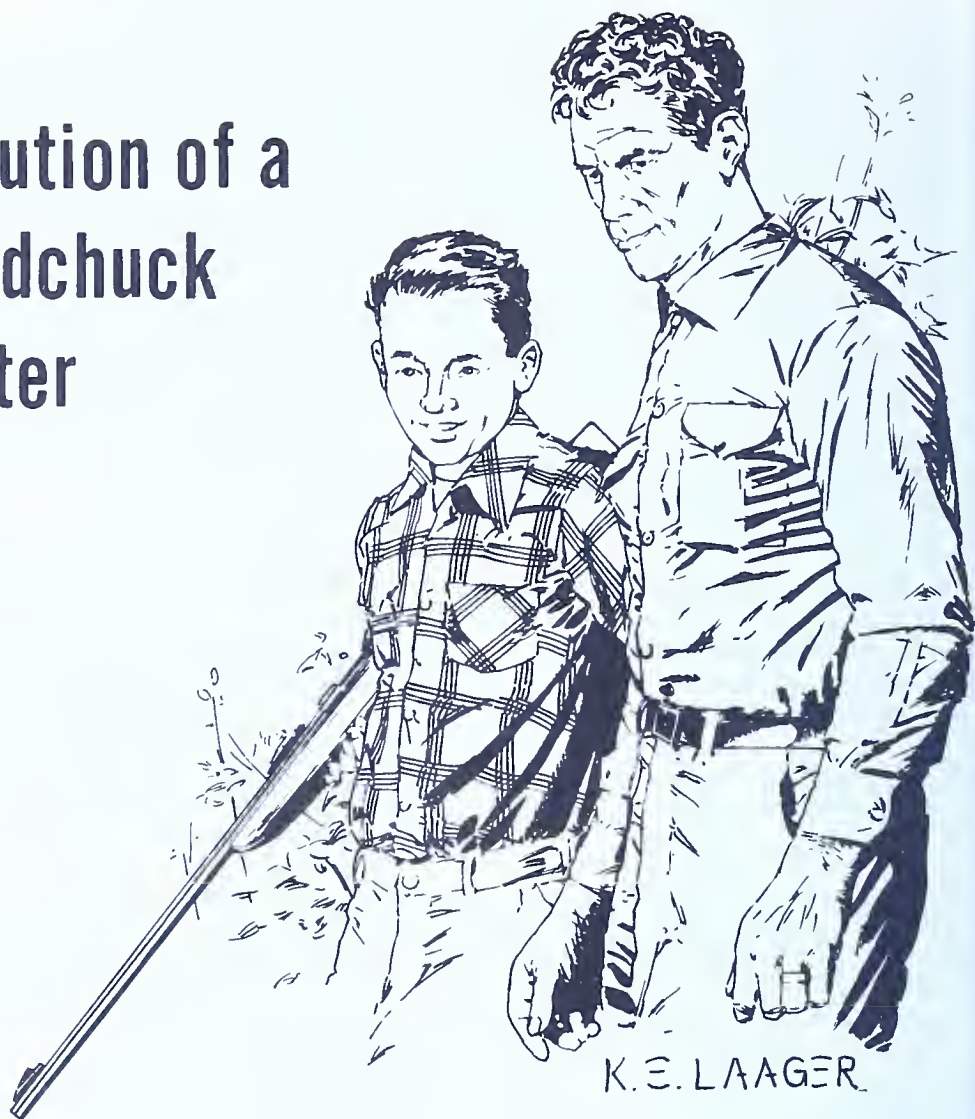
1 gallon water
1 c. molasses
1 c. vinegar
1 tsp. dried and ground wild ginger root
1 c. brown sugar
1 tbs. oatmeal

Stir all ingredients together. Pour into jugs and chill.

DGP Larry Heade saw this sign in Butler County. It expresses the feelings of many landowners who permit sport hunting but are bothered by others who post their own land and then take advantage of nearby areas open to sportsmen.



Evolution of a Woodchuck Hunter



I SOUGHT the advice of my Uncle John, an expert rifleman who had shot at Camp Perry a number of times. He soon became the major factor in my evolution.

By Anthony J. DellaToffalo

OVER THE PAST fifteen years, I have become a dedicated woodchuck hunter. Like anyone who becomes more and more involved in a hobby or sport, I have undergone a gradual evolution in the methods and hardware that I use.

As a lifelong resident of rural Pennsylvania, my beginning as a woodchuck hunter (we called them groundhogs then) was in classical fashion—a boy with a 22 rifle. Nothing fancy, just a

bolt action Remington Model 511 with iron sights.

Although I'd accompanied my father on many walks in the woods behind our house, and had done a good amount of plinking, I didn't discover the sporting potential of groundhogs until I was in my early teens. My eye had been sharpened by sniping starlings in our garden and in the neighbor's berry patch. I averaged over a hundred of these nuisance birds each summer, and

we had some of the heaviest cats in the neighborhood as proof. When a friend asked me to get rid of some groundhogs that were helping themselves to his vegetables, I had my first exposure to "big game" hunting.

It was early summer, and the corn wasn't high enough to hide the hungry critters as I watched from a nearby bank. The shooting was ideal, with the longest shot being about 80 yards. That first week, hunting in the afternoons and on Saturday morning, I got eight groundhogs. A woman who lived down the road was a thankful recipient of the meat.

Another neighbor, noting my success, asked me to get the groundhogs which were raiding his garden. One had even dug a den in his lawn. He occasionally shot at them with his 8mm, but never hit one. (I don't think his rifle had been sighted in since World War I.) Again, I had good success, taking eleven groundhogs out of his garden in the next few weeks.

Now I was beginning to take more notice of these animals during my hikes. I discovered a veritable "groundhog village" on the hillside above my neighbor's berry patch. The hillside and the field above it had been mowed, so there was no cover closeby. I quickly learned that iron sights and 22 long rifle hollow-points both leave something to be desired when trying to shoot groundhogs at 100+ yards. The front sight more than covered them at that range, and when I did hit them, sometimes they managed to crawl back to their dens. The next step in my evolution thus became necessary. I switched to my deer rifle, a Winchester Model 94, in 30-30 caliber. This made hitting easier, because of a better trajectory, and solved the problem of insufficient knockdown power. However, the problem with iron sights remained.

By now, I was walking area clover fields, and these offered longer shots. My dad's 7x35 binoculars helped me spot more, but that front sight still covered the groundhog, and quite a bit around it. Somewhere I had read that scopes made it easier to shoot at long distances, so I sought the advice of my Uncle John who, I later learned, was an

expert rifleman that had shot at Camp Perry a number of times. He turned out to be the right person to ask, and soon became the major factor in my evolution.

Uncle John diplomatically persuaded me that putting a scope on a 30-30 wasn't going to make it into the ideal groundhog rifle. In addition, he pointed out that my long arms had outgrown the short stock of the Model 94, making it awkward for me to align the sights. Soon we were at Buck Trew's Sport Shop in Bentleyville, looking at a used Winchester Model 70 in 270 caliber. It was in excellent condition, but Buck told us to take it home and see if it shot well before we bought it. He never saw it again! It drove tacks with the 100-grain factory load. I returned to Buck's with my Model 94 and some cash for the difference. My uncle "financed" a Lyman 4x All-American scope and mounts for me; a 4x was selected since this would be the scope I'd have to use for deer as well as groundhogs.

Using my new combination on some targets, I soon discovered just how much I had been doing wrong without knowing it. My uncle coached me, teaching me how to hold the rifle, aim, breathe, squeeze the trigger, call my shots, etc. John had remarkable patience with me. I got a couple more groundhogs before fall came, but really didn't know what awaited me next summer.

90-Grain Sierra

The next June we began target shooting. This was expensive, so I looked up one of my father's friends who reloaded. Luckily, he also owned a 270. After scanning numerous reloading catalogs, I decided to try Sierra's 90-grain hollow-point bullet. No loads were published for it at that time, so I wrote to Sierra. They furnished me with a card listing a number of loads. After trying several, we settled on a load which reportedly produced 3600 f.p.s. muzzle velocity. It shot one-inch groups at 100 yards with absolutely no pressure problems. The cases were used over and over again, as I had only a limited number of them. When July, and the hay-mowing season came, we

began making treks to Greene County. I learned that my uncle had been hunting groundhogs for years, and had established good relationships with a number of farmers. Invariably, we were warmly greeted and advised where the most groundhogs lived.

All the spots we went to had one thing in common—the terrain was ideal for long shots and could be well covered from a central location. Here we threw down blankets, took out a cooler full of soft drinks and food, and began scanning for groundhogs. Even when we didn't have much luck shooting, we had an enjoyable time.

Many times John displayed infinite patience as he pointed out standing groundhogs to me and I took what seemed like forever to locate them. It took the better part of the summer before I developed the knack of spotting them. Then came the problem of hitting them. He got many chuckles when a shot went low and exploded a groundhog's mound into a cloud of dust. On long shots the groundhogs sometimes seemed confused at such a happening and actually ran away from their holes. "Give him another one!" John would say with a big grin.

Crosshairs Too Coarse

I shot out to 200 yards with some success, but found the crosshairs of the 4x scope covered too much of the targets beyond that. Another evolutionary step took place that winter when I bought a Bausch & Lomb 2½-8x scope. Its ⅓-minute crosshairs and increased power were just the ticket for groundhogs. This rifle/scope combo also was excellent for deer hunting, and remains my whitetail hunting outfit today. With the 90-grain bullet, I could now shoot 1½-inch groups at 200 yards, and with the Sierra 130-grain boat-tail bullet, 2-inch groups at 200 yards. This outfit served my hunting needs for a number of years. It accounted for hundreds of groundhogs, practically all of which were given to people who enjoyed the meat.

Next I became interested in improving my ability to spot groundhogs. For some time I had eyed the spotting scopes on the market, but couldn't jus-



WHEN A FRIEND asked me to get rid of some groundhogs that were helping themselves to his vegetables, I had my first exposure to "big game" hunting.

tify the cost of one. Then while hunting with a companion I considered to be very reliable, an incident happened which prompted me to make the expenditure. I had spotted what appeared to be a groundhog about 200 yards away, in the corner of a pasture field. Since my friend was carrying 10x50 binoculars as opposed to my 7x35s, I asked him to confirm the sighting. He did so enthusiastically, and prompted me to shoot. I did, but nothing happened. Since it didn't run, we assumed it had just been dropped on the spot, and proceeded to walk out to pick it up.

When we got there, we both stared in surprise—and dismay—at a small tree stump with the back blown out of it. I was sick. That could have been another hunter, or a farmer's child. I cannot describe the feeling that overtook me then, and lingered for months afterwards. Was a spotting scope—and the peace of mind it could provide—worth the monetary cost? In answer, let me state that today, thirteen years la-

ter, I still carry the Bausch & Lomb 15-60x spotting scope on every hunt. And from 300 yards, I not only know that I'm shooting at a groundhog, but I can tell you whether he's eating clover or grass. And if I ever look at anything I can't positively identify—I don't shoot!

As my shooting skills increased, I became dissatisfied with the power limitations of my rifle scope. After using my spotting scope, the drop in power when going to the hunting scope bothered me. In many cases I could clearly see a groundhog in the spotting scope, but not be able to aim at it with the rifle scope. This was true on both long shots and on closer shots where grass was high and only a portion of the groundhog was visible.

I decided I had to get a higher power scope, but didn't want to break up the present combo which by now had accounted for several bucks. It was time for a "purebred" groundhog combo. My choice was a Winchester Model 70 Varminter in 22-250 caliber with a Redfield 6-18x scope. The weight of this outfit, and its light recoil, made it extremely pleasant to shoot, and I enjoyed using it to work up an accurate load. I settled on the Sierra 52-grain hollow-point boat-tail bullet, which consistently grouped under one inch with DuPont IMR 4895 powder. I did have to rework the rifle trigger as the range of adjustment didn't allow a light enough trigger pull, but no other work was necessary.

An indication of the luck I'd have with this rifle came when I was doing a final sighting in before taking it out for groundhogs—which I now called woodchucks, as that seemed the sign of a devout varmint hunter. After shooting groups at 50, 100, and 200 yards, I was putting my equipment away when a chuck wandered onto the range at the 100-yard mark. The range is located on a 200-acre tract in a rural area, and hunting is permitted. I dug out a shell, got organized, and collected my first woodchuck with this rifle.

I soon found that this outfit made a nearly ideal combination, one with

which I could consistently hit my targets out to 300 yards or so. Only on windy days did I have any problems. I learned to revert to my 270 on those days, though I really missed the magnification of the larger scope. The low recoil of the 22-250 in this rifle let me watch my shots hit, and see my mistakes.

As time went on, I learned that beyond about 400 yards the 22-250 didn't always anchor chucks, probably because I couldn't place my bullet in the head-neck-chest area. Not that I always shot that far, but I did find such chances a natural challenge. Soon I was reading up on the benchrest rifles available, and after corresponding with Mike Walker at Remington, decided on a 40XB in 25-06 caliber. Having found the Redfield 6-18x scope ideal for shooting at various ranges, I decided upon another one for the 40XB. Though I would rather have been able to go to 20x or 24x, the versatility of this variable, coupled with the extremely fine crosshair available (.3 MOA at 6x; .1 MOA at 18x) made it my choice.

Last Step?

This step in my evolution took a while to fulfill. I waited over a year to get the rifle from Remington. When it finally came, it was accompanied by two targets, each with a 5-shot, 100-yard group. They averaged .55 inches. Having arrived late in the season, it was used with factory loads. They accounted for quite a number of chucks, but I like to roll my own so last spring began working up test loads. I spent much time at the bench, and it all began to pay off when, on my first hunt of the year, my chosen load accounted for 14 chucks.

My evolution as a chuck hunter, as I see it at this time, is complete. I have a topnotch rifle and a topnotch scope, a combination which should allow me to take the longest shots available in my part of Pennsylvania.

But then, I did read where someone recently developed a portable laser . . .

The black bear is one of the most highly regarded, yet least known, animals in Pennsylvania. For over eight years the Game Commission and the Wildlife Research Unit at Penn State have been carrying on a program designed to collect data on this creature. Here is a report by one of the researchers on just two days in the life of Bear 501. . . .

14½ Miles of Bear Tracks

By Gary L. Alt

PCC Black Bear Researcher



PHOTO TAKEN while Bear 501 was immobilized shows size of its paw as compared with hand of researcher's wife, Vanessa. Picture was taken on August 2, 1974, in southern Pike County.

IT WAS THE morning of March 11, 1975, and I was hurrying down an old logging road in southern Pike County, on my way to a swamp where one of my tagged and radio-collared black bears was nested. It wasn't actually "my" bear, of course, but I felt a proprietary interest in it because this was one of many bears I'd been studying and collecting data on for several years. I was carrying a field notebook, a compass, and a U.S. Geological Survey map, and my intentions were clear—to drive the bear, an adult male known in our records as No. 501, from the swamp and follow his tracks in the fresh snow until dark, plotting his movements on the map and making note of any unusual behavior. I knew where he was because we'd spotted him from my

father's airplane after following the signals from his radio collar. I'd marked his exact position on my map.

Bear 501 had an interesting history. We'd first captured him on August 2, 1974, one-half mile south of Balsam Swamp, near Promised Land. He then weighed 332 pounds and measured 30 inches around the neck. A pre-molar tooth, taken at that time and cross-sectioned, gave his age as five years. A radio collar was placed around his neck, and from its signals we located him 118 times between August 2, 1974, and March 11, 1975. Based on these locations, his home range was determined to be 8.6 miles across at its widest point and about 6.5 miles deep, encompassing some 33 square miles of prime bear range in Pike and Monroe counties. Like most other males we have observed in northeastern Pennsylvania, Bear 501 spent the cold months in a winter nest constructed of thousands of twigs he bit off and collected into a unit resembling a giant bird nest.

After hiking for nearly an hour, I spotted the blueberry swamp where Bear 501 was resting. As I made my way down to the edge of the swamp, questions began coming to mind. What would the bear do when approached? I knew he would run, but where? How would he use his home range? Would he go from swamp to swamp or run the

ridge tops? Would he know I was following him and if so how would he respond? Would he try to trick me by walking in streams? Well, one thing was for sure, it wouldn't be long before I'd find out some of the answers.

My main objective in tracking this bear was to evaluate his behavioral responses to being followed, particularly in terms of habitat utilization, vulnerability to hunters, and avoidance of the tracker. Data of this type is valuable in implementing the movement history provided by radio-telemetry.

Before entering the swamp, I pulled out the map and compass and made one last survey of the area to determine exactly where we had spotted the bear from the airplane, only a few hours before.

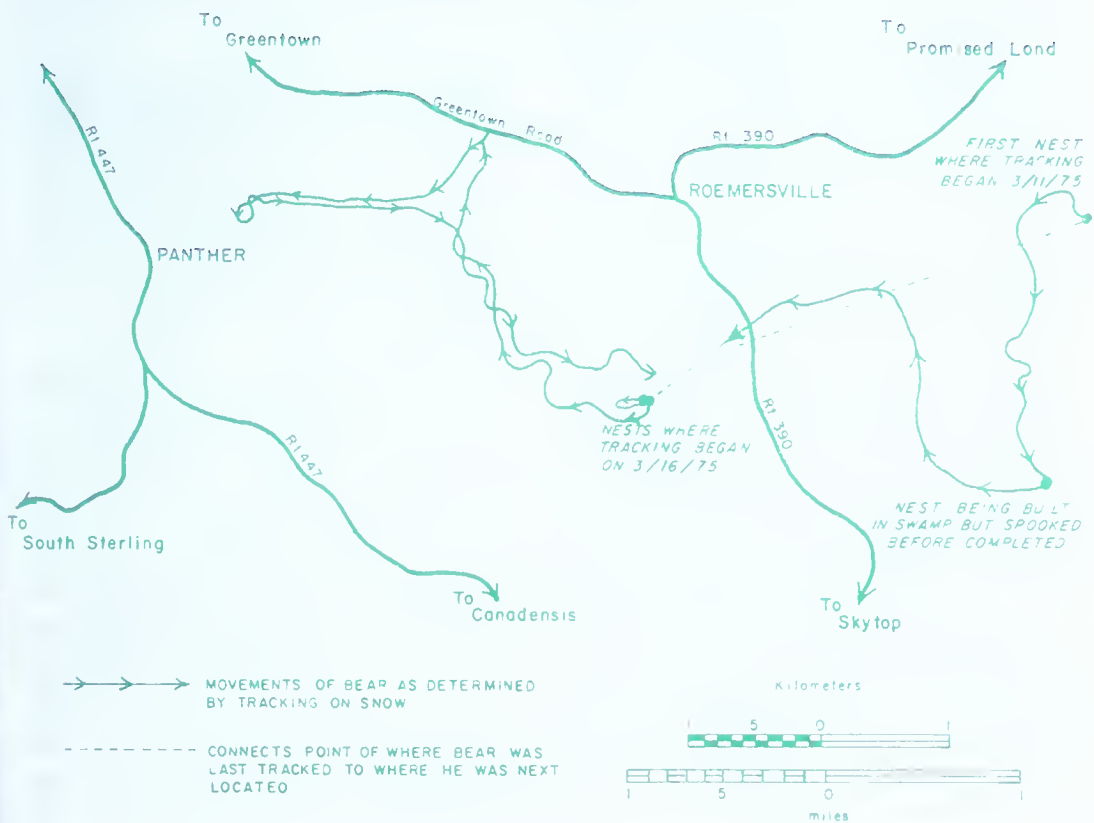
I came across his nest less than five minutes after entering the swamp. A fresh set of bear tracks led away. Close inspection left no doubt in my mind they had been made by an adult male; they were too large for anything else. I

checked my watch. It was 10:30 a.m. and the chase was under way.

After leaving the blueberry swamp I tracked the bear 2.8 miles, generally south, to a blueberry-spruce swamp where he was constructing another nest. At 1:15 p.m. the bear fled his second nest site, which he was building of spruce browse and swamp grass. While in the second swamp, he made a loop, several hundred yards in diameter, but did not quite return to his earlier trail. He stopped only 50 feet shy and built a nest downwind, where he could watch for and smell anything following his old trail. As I came down the trail he spooked. I heard him, but wasn't sure what it was at that time and continued to follow his tracks around the loop, eventually coming to his new nest. By the time I found the nest, he was probably over a mile away.

Fresh tracks and materials were scattered about the site, giving numerous clues to the way a bear constructs a winter nest. All materials apparently

GENERALIZED SKETCH shows movements of Bear 501, an adult male that was tracked on snow in northeastern Pennsylvania on March 11 and March 16, 1975.





FLOYD ALT lies in nest built by Bear 501. Built of thousands of blueberry stems, it was almost six feet in diameter and two feet deep. Icks Pond, right. Circle shows bear's nest where March 11 chase began. Far right, Gary Alt and his father Floyd examine Bear 501 during an immobilization. At this time, bear was five years old and weighed 332 lbs.

were gathered within 50 feet of the site. Two neat piles of swamp grass, bitten into 8 to 12-inch lengths, were observed on nearby hummocks where it had grown. Grass from a third hummock had been bitten off, carried to the site, and placed on the icy ground. Spruce browse then was placed over the grass. The nearby piles of swamp grass were probably to be used to line the nest, but I arrived before he had time to finish it. Nests we had examined previously, built by Bear 501 and other males, had been lined with swamp grass when it was available.

Into Water

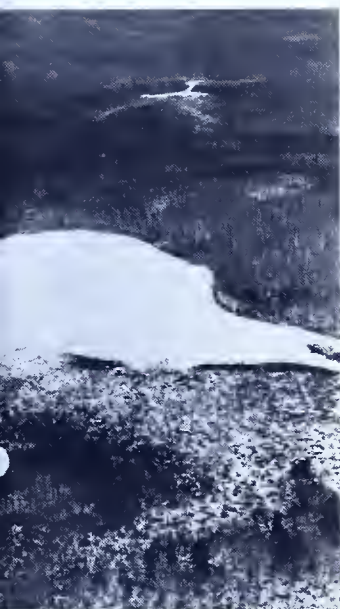
The bear traveled northeast after leaving the second swamp, following a stream about three-fourths of a mile. He frequently jumped into the stream where the water was deepest, sometimes leaving it where he had entered, other times traveling as much as 50 yards in the stream. He apparently did this to cool himself, or perhaps to confuse the tracker. On several occasions when moving north along the stream, his tracks disappeared in the water. I assumed he would either cross the stream or continue north in the water. However, he did neither. He turned and walked south in the stream, then left the water heading in a different direction.

As the afternoon progressed, I rea-

lized the bear was reaching into his bag of tricks. The bright afternoon sun was melting the snow from the rocks, and he began to use this to his advantage, jumping from rock to rock. He left little sign this way, making tracking much more difficult.

After awhile he reached even deeper into his bag of tricks and came out with something new—back tracking. The first time it happened, I was moving along his trail at a good rate when, suddenly, his tracks simply vanished. There were no rocks, no water, nothing to conceal his tracks. My first thought was that he had climbed a tree. After scanning the treetops until I was dizzy, I half expected Captain Kirk or Spock to appear and tell me that ol' 501 had been beamed aboard the Starship Enterprise!

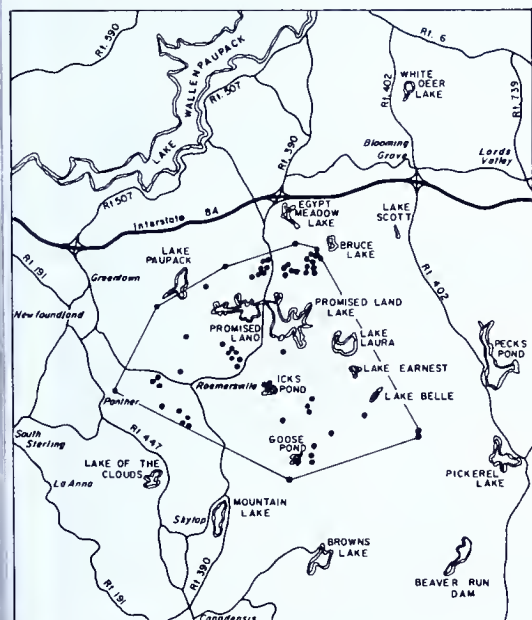
I sat down and tried to think of a logical explanation. There had to be one, but I couldn't come up with it. I went back to the tracks. This time I noticed there were toe marks at both ends, even though there was no evidence in the snow to indicate the bear had turned around. I followed them back about 50 yards and found where the bear had jumped off the main trail, walking away in a direction perpendicular to his old tracks. He pulled this backtracking stunt on six separate occasions during the day, successfully slowing the tracker. Each time he placed his



feet accurately in his old tracks and changed direction by about 90 degrees when leaving the original trail.

At 4 p.m. tracking was terminated for the day. Bear 501 had been trailed 5.5 miles through two swamps, across five streams, three jeep trails, and one paved highway. The bear crossed Route 390 within 50 yards of where my vehicle had been parked all day.

A RADIO COLLAR was placed on Bear 501 in 1974. Over 100 locations were plotted from its signals, showing a home range of some 33 square miles, roughly centered on Icks Pond, as shown below.



Using his plane, my father radio-located the bear before dark that evening. He was in a rhododendron swamp about one-half mile southwest of the point where tracking had been terminated.

I decided to spend another day following Bear 501. Erick Klein, an East Stroudsburg College student, volunteered to come along. A light snow on March 15 set the stage for good tracking, so at daybreak on March 16 my father and I flew over the study area to determine if 501 was still in the same rhododendron swamp. He was. After landing at the airport, I made arrangements for my father to locate the bear from the airplane several times during the day, to determine how far it was ahead of Erick and me as we followed the tracks.

Shortly after 9 a.m. Erick and I were working our way through the dense rhododendron to the bear's nest. Erick had expressed some concern about the bear being aggressive, but I assured him black bears were not and that there was nothing to worry about. I did indicate, however, that this particular bear probably weighed over 500 pounds at this time and when standing erect would be about eight feet tall. I then jokingly commented that if he did attack I would be forced to tear him apart with my bare hands.

Well, I no'sooner got those words out

of my mouth than the creature rose up on his hind legs less than 50 feet in front of us. There was a moment—it seemed like an eternity—of complete and utter silence. The apparently confused bear then began running at full speed—directly toward us! As he closed to within 25 feet of us, I let out an adolescent squawk. Startled, he reversed engines and disappeared in the rhododendron like a furry king-size cannon ball. I took a minute to regain my poise, then said, “See, they aren’t aggressive.” I never could figure out why a quarter-ton bear would be so afraid of something so small as me, but I’m sure glad he was.

We began following the tracks and the bear wasted no time in demonstrating his tricks. And he’d added a new one to his repertoire, one that almost made our task impossible. He began walking in circles through the swamps, following our tracks. At times it seemed to be a question as to who was tracking whom! The swamp was soon so tracked

up that it was extremely difficult to tell which were the old tracks and which the new. After considerable work we finally found where he had left the swamp.

By mid-afternoon we were beginning to think about getting back to our truck. It was over two air-miles away, and considerably farther on the ground. A short time later, the bear doubled back and by 5:40 p.m., after following the bear 9.1 miles, through eight swamps and across seven streams, four jeep trails and two dirt roads, he led us within a few hundred yards of the point where tracking had started in the morning, and just a short distance from our truck.

The following morning, March 17, an aerial radio-location indicated the bear was in the exact nest from which he had been initially aroused on the morning of March 11. It was ironic that it should end right where it all began. We also later learned that this animal, on his way back, had crossed the main paved

Table 1
Characteristics of movement of an adult male black bear tracked on snow on March 11 and March 16, 1975, in Pike County.

Characteristic	March 11	March 16	Total
Total distance traveled	5.5 mi. (100%)*	9.1 mi. (100%)	14.6 mi.
Distance traveled through rhododendron, blueberry & blueberry-spruce swamps	0.7 mi. (13%)	4.4 mi. (48%)	5.1 mi.
Distance followed streams	0.8 mi. (15%)	0.2 mi. (2%)	1.0 mi.
Average distance between rest sites (beds or nests)	3.1 mi.	2.3 mi.	5.4 mi.
Hours tracked	5.5	8.3	13.8
Backtracks/miles traveled	1.1	2.9	4.0 mi.
Total distance backtracked	—	0.6 mi.	0.6 mi.
Average distance traveled/backtrack	—	118 ft.	118 ft.
Times backtracked	6	26	32
Swamps tracked through	2	8	10
Streams crossed	5	7	12
Jeep trails crossed	3	4	7
Dirt roads crossed	0	2	2
Paved roads crossed	1	1	2

*Figures in parentheses are percentages of total distance traveled for that day.

highway, Route 390, within 50 feet of the point at which he had crossed it a few days earlier.

After a few days, I had a chance to scan the notes taken on our two-day chase of Bear 501. I began summarizing what had taken place. Eight nests and daybeds had been located, all in dense swampy habitat. On the second day of tracking, the bear spent more time in swamps and less in open hardwood forest cover along streams, and also backtracked more frequently. Based on three radio-locations taken while we were following him, the bear averaged 1.4 miles in front of us. In addition, he frequently entered streams and pools when the temperature was up, and after walking or running for several miles, but avoided water at other times. Furthermore, the bear traveled through four swamps which our previous radio-tracking had not shown he used.

Bear 501's backtracking, walking in streams, rock jumping and persistent travel through dense vegetation made following him difficult, to say the least, even when the snow cover would normally be considered excellent for tracking.

All in all, we learned a lot about Bear 501—an animal we had followed with an airplane for over seven months—by just following 14½ miles of bear tracks.



ON NOVEMBER 24, 1975, Ricky Haldaman, 18, of RD1, Greentown, killed Bear 501 while hunting near Promised Land, Pike County. When taken, the bear weighed 560 lbs. live weight—228 lbs. more than it weighed when checked by Alt 15 months earlier! This is one of the heaviest bears ever taken in Pennsylvania, truly a trophy that any hunter would be proud of.

Available Publications

The following publications are available from the Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120. Prices quoted include taxes, handling and postage.

GONE FOR THE DAY, by Ned Smith. All of the outstanding columns and artwork which appeared under this title in **GAME NEWS** during a four-year period. Delightful reading for everyone. 216 pp., \$2.50.

PENNSYLVANIA BIRDLIFE by Leo Luttringer. All about Pennsylvania's birds—what makes them tick, where to find them, how to identify them, what to feed them, how to conserve them. Color charts. 128 pp., \$2.00.

PENNSYLVANIA TRAPPING AND PREDATOR CONTROL METHODS, by Paul Failor, gives detailed information on all phases of these activities—sets, baits, etc. 96 pp., \$1.

GAME NEWS BINDERS, black vinyl with gold lettering. Will hold 12 issues, keep them neat and clean. Excellent as gifts. \$2.50.

Signs of Wildlife

By Kermit G. Henning

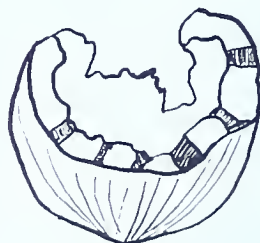
ONE OF THE most rewarding and fascinating hobbies in the outdoors is identifying wildlife without seeing it. It is truly a refined skill to "see" the many wild creatures in the fields, woods and streams by the signs they leave—if you never actually see the critters themselves.



SHED ANTLERS
AND FEATHERS

He is so intent on looking for gnawed nuts or trying to spot den trees that he will completely overlook the well-worn deer trail used daily by whitetails entering and leaving the forest. Or how about the trapper. He walks through a marsh looking for muskrat runs and never notices the nests of the redwing blackbirds clinging to the cattail stalks.

As you can soon discover, signs of wildlife come in a variety of types.



GNAWED
NUTS

Those of us who spend quite a bit of time roaming around outdoors in all seasons have become more aware of wildlife signs and can identify them more easily than those who only occasionally venture out of doors.

Whenever I'm hunting, fishing, gathering wild foods, hiking or whatever, I always make it a point to look for signs of any birds or animals that have been sharing these same haunts. Some outdoorsmen are more interested in one particular species of wildlife and concentrate on that alone. Take, for instance, the squirrel hunter.



EGG SHELLS



GNAWED
BARK

Scars are good signs of wildlife and are easily recognizable—if you only look. Everyone will recognize the alder stumps left by the local beaver colony, while gnawed raspberry canes show where rabbits fed during high snow and the browse line in a forest indicates the approximate strength of the deer herd in that area. Worn trails and buck rubs are further evidence of whitetails, and dusting beds can tell of a local population of pheasants.

Shelters are also signs of wildlife, from easily recognizable beaver lodges and groundhog burrows to the hundreds of different birds' nests.

Scraps of food are signs of more recent visits by wildlife. Pecked fruit, the gnawed nuts sought by that squirrel hunter, grazed foliage, crop damage,



etc., show clear evidence of animal life all around.

"Spare parts" show evidence of a particular species of wildlife. Shed antlers, feathers and snakeskins, eggshells and hair are some of the easiest signs to identify.

Skeletons and bones are also signs. When you find a skeleton or a bone of an animal, try not only to identify the animal it belonged to but also to determine the cause of death. Perhaps the skull you found belonged to an unlucky cottontail that was caught by the neighborhood red-tailed hawk. Or maybe you came across the skeleton of a winter-killed whitetail.

There are so many different tracks in the fields and forests that it would take a lifetime to learn them all. But you'll be surprised at how many you already

know and at how easy it is to learn others.

Perhaps the most numerous signs of wildlife are the sounds. The sudden flushing of a grouse that you never see, the whistling wings of the mourning dove, the woodpecker's hammering, the croaking bullfrogs and, of course, the many bird calls.

The next time you're outdoors, make it a special point to look for these and other signs of wildlife. I guarantee you'll enjoy your trips more and make them more often. You'll also learn much more about the animals that share our world with us. You'll soon know exactly which birds and animals to expect in the various habitats at various times of the year, and you'll even learn why they're there when they are.

Young Rangers Win NWF Honors

Seven young Pennsylvanians received awards in a national contest sponsored by Ranger Rick's Nature Club, junior division of the National Wildlife Federation. Each had to resolve a conflict between wildlife habitat and human development, described in a story in *Ranger Rick* magazine. Their solutions were given by answering questions and writing a conclusion to the story presenting the hypothetical land use problem. Keystone award winners were: Johanna Snyder, 10, Columbia; Tracy Pierson Titus, 6, New Ringgold; David Bell, 5, Stoystown; Daniel Black, 12, Sharon; Ken Miller, 9, Greensburg; Lorren Orris, 10, Millerstown; and Claire Slutter, 11, Allentown.



COMMON SPRING AND FALL migrant, and a summer breeding resident. Not much of a songster. Large size and heavy black bill are good clues.

Who?

THAT QUIZZICAL warbler seems to ask, "Have we been introduced?"

Since many warblers are nesting now, it's a good time to renew old acquaintances or make new ones. Warblers are tough for the beginner to differentiate. Learning takes patience, practice and perseverance; familiarity with songs helps. For those of you struggling to master the art of identifying warblers, we present a few which are common in Pennsylvania. Hints may help. All are identifiable in black-and-white. Can you tell who's who? Check your answers in any field guide.

Birds pictured are: cerulean warbler, yellow - breasted chat, Kentucky warbler, oven-bird, yellowthroat and yellow warbler.

Photos by Karl Masl

HIS COLOR TELLS you his name. The only warbler with color so pure, and lightly streaked breast.



WICHITY-WICHITY from the brush gives you a clue; the black mask covering his eye seals it. His mate's a little trickier.





BLUE-GRAY CROWN, buffy throat in this female change to blue crown and back, white throat and black "necklace" in male. More common in southern Pennsylvania.

YELLOW BELLY, solid wings distinguish this warbler from nearest look-alike. A summer breeding resident of Pennsylvania, despite its name.



IF THE RUSTY CROWN doesn't tell you who this is look at the eyering. And the domed nest might teach you something Common through three seasons



FIELD NOTES



Here at Last!

RLSC—June is especially significant for the twenty-one men here at RLSC. This month marks the end of a 50-week training program during which we found ourselves separated from the familiarity of home and the warmth of our families. It is good to know that soon we can resume our normal family lifestyles and begin our long-awaited careers as district game protectors.—Trainee Stephen A. Kleiner.



Kids are Great!

VENANGO COUNTY—Recently, the Northwest Division Office received a report from some children that they saw some men park a car in their driveway, get out, go up the road, shoot a couple of times, and then drag a deer to the car. They said the men then did something to the deer and drove off. It was good to learn that children are taking an interest in reporting Game Law violations and “suspect” incidents. I don’t even mind that it was me they reported! (I had killed a road-injured deer and loaded it on my deer rack.) Keep it up!—DGP Len Hribar, Seneca.

Rousing Hurrah

RLSC—During my law enforcement field assignment I worked in highly populated counties as well as in some very rural areas. Of course the problems I encountered were considerably different in each of these districts. The one thing that remained constant throughout the assignment was the dedication and interest shown by the deputy game protectors. Whether teaching hunter education in Montgomery County or working with the influx of deer hunters in Warren County, the deputies gave freely of their time and handled these duties in a professional manner. I wish everyone interested in wildlife conservation could be made aware of the service that these men and women provide to the Commission at a bargain price.—Trainee Ron Stout.

Rooting for Puns

RLSC—While puzzling over the identification of twigs in dendrology class, I commented that I wasn’t sure if I’d ever learn to identify them. Trainee Koppenhaver replied encouragingly, “Stick to it, bud, and you’ll leave here with your trunk packed, ready to log many miles for the Game Commission.”—Trainee Clayton G. VanBuskirk.

Helping Beats Listing

SULLIVAN COUNTY—Recently there has been a move to place the bobcat on the endangered species list. It seems that every time a wild animal begins having population problems the answer is to place it on this list. I feel certain that if the energy expended to accomplish this were directed to habitat improvement, this species would rebound.—DGP Barry R. Hambley, LaPorte.

Everyone Benefits

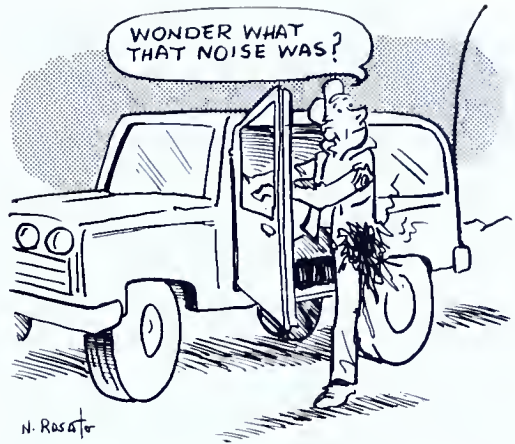
BUTLER COUNTY—I recently met with Jack Grau, a retired sportsman from Gibsonia, who asked what contribution he could make to the outdoors in his spare time. We came up with the idea of making bluebird houses out of scrap lumber. During February, while most sportsmen were toasting their shins by the fire, Jack delivered to my home many bluebird houses he had made over the winter. I decided to carry his kind gesture one step further, and contacted Bob Heck, biology teacher at Moniteau High School. With the help of the Ecology Club, which Bob directs, we will erect the bluebird houses on school grounds and adjoining Game Commission land. Everyone will benefit from Jack's project due to the bluebirds' voracious appetite for insects. Think about it—what can you do, or have you done, for wildlife lately?—DGP Ned Weston, Boyers.

Avalanche of Whitetails

TIOGA COUNTY—During the latter part of January the deer herd suffered a tragedy along Pine Creek in this county. Between Tiadaghton and Blackwell, along the east side of Pine Creek Gorge, approximately twenty deer ventured onto the steep rocky side of Pennsylvania's Grand Canyon and were killed in snow slides as they fell to the bottom of the canyon. Many sportsmen who heard about this tragedy thought that the deer had starved to death, or were hit by the train in the canyon, but this was not the case.—DGP C. Lynn Keller, Wellsboro.

Long-Lasting Food

Most seed and berry sources were pretty well depleted due to heavy use by our wild birds and mammals during the harsh winter conditions. However, it is interesting to note that both wild turkeys and grouse regularly fed on sumac seeds that were still readily available in the southeast.—LMA B. D. Jones, New Ringgold.



Watch That Warmer

FRANKLIN COUNTY—Jim Shindle, of Waynesboro, told me about a scary incident that happened during the past deer season. He was driving down the highway after a day of hunting when he heard an explosion. At first Jim thought someone had shot near the highway, but he could not see anyone. His second thought was that a bullet had hit his vehicle, so he stopped. As Jim started to get out of his car, he noticed his jacket pocket was in shreds. He knew he had a solid fuel hand warmer in that pocket but could not figure out what caused the explosion until he realized he also had a butane lighter in the same pocket. Jim is passing this warning on to other hunters: Don't carry a pocket warmer and a lighter in the same pocket.—DGP Ron Schmuck, Greencastle.

Why Not Elephants?

CLEARFIELD COUNTY—While on a talk show at radio station WPHB, in Philipsburg, I fielded several questions about deer and the problems involved with winter feeding. After we discussed at length the scarcity of food in the forest, a phone call came in from a lady who, in all seriousness, asked why we didn't stock moose in the Black Moshannon area of Centre County. . . . (sigh).—DGP Jack Furlong, Ramey.

Tangible Thanks

LANCASTER COUNTY—With the heavy snowfall this year, rabbit damage complaints were very high. So high, in fact, that it was all my rabbit trappers could do to keep up with them. One such complaint was from Robert Fisher of Lancaster, who raises fruit trees for a hobby. Rabbits had destroyed almost every tree in his yard. I sent Steve Drager to help Mr. Fisher get rid of the tree-munching monsters. Within fifteen minutes after the traps were set, two of the critters had been caught, and within two days, nine rabbits had been removed. Mr. Fisher was so happy to have the rabbits removed that he offered to build some rabbit traps and donate them to the Game Commission. I said we didn't need any rabbit traps, but we could use a raccoon-size trap. It looks like some of the raccoons and skunks I trap and relocate this summer will owe their move to the hungry rabbits from the Blizzard of '78 and the refreshing attitude of Mr. Fisher.—DGP John A. Shutter, Jr., Lancaster.



Beyond the Call of Duty

RLSC—After a hard eight hours of chopping trees down for a timber stand improvement class, you'd think you could fall right to sleep. For some, though, it was not that easy, with half the class still sawing logs 'way past midnight.—Trainee David R. Koppenhaver.

Good or Bad?

HUNTINDGON COUNTY—Game protectors witness a variety of responses to wild animals. I recently spent all day taking care of raccoon complaints. Farmers had been having problems with the critters in their sweet corn. After an earful of what farmers thought of coons, I received a call from an individual who was upset about one around his home. When arriving on the scene, I could see that the animal was sick and acting strangely. I decided to destroy the animal. If this individual had been a farmer, I would have been a hero, but this man wanted me to save the coon! After explaining that it would be better to destroy the animal, he understood. Some days you just can't make anyone happy.—DGP Phil Lukish, Alexandria.

Hanging In

NORTHAMPTON COUNTY—Although we had one of the most severe winters since I've been in this district, our wildlife here appears to be numerous and in very good condition overall.—DGP Richard W. Anderson, Nazareth.

Off the Streets

RLSC—This seems to have been another good year for the trappers, with prices still up and most furbearers in good supply. Trapping is one of the few hobbies that can pay for itself and be interesting to boot. Looking for something to do next winter? Try trapping. Better yet, get the young ones involved. There is no better way to keep your kids off the streets than to introduce them to nature.—Trainee Mark A. Crowder.

You've Heard it Before

RLSC—If you are lucky enough to see a young wild animal this spring, look at it—then leave it!—Trainee Don Smith.



Ate Like a Bird

CENTRE COUNTY—Deputy Paul Bashore recently rescued a loon that had been grounded by an ice storm. He kept it at home until the bird regained its strength. What he didn't count on was the bird's appetite. He wound up buying several dozen minnows per day to keep the bird fed. As if that wasn't enough, the bird tried to take several bites off the family cat. The loon was released in good condition; I'm not too sure about the cat.—DGP Lowell Snyder, Milesburg.

Suicidal Deer

ERIE COUNTY—I received a call from a trucking company reporting damage to one of their trucks when one of "our deer" jumped in front of the vehicle. After I explained the Game Commission is not responsible for property damage as a result of animal/vehicular collisions, he asked, rather hesitantly, "Do we have to pay for killing the deer?"—DGP Andy Martin, Erie.

Not This Time

WESTMORELAND COUNTY—During the past antlered deer season, we had a rumor about an antlered doe being killed in my district. Upon investigation, I found the information to be groundless. One of my wife's friends said that had I found it, she would have known the doe's first name—"John".—DGP R. D. Hixson, Ligonier.

Feeding All Birds

ARMSTRONG COUNTY—About this time every year I get a call from a woman who is perplexed about a hawk chasing the smaller birds from her backyard feeder. It seems that people who feed local birds come to think of them as "their birds" and they resent a hungry hawk swooping in to spoil the fun. Well, the hawk is also a bird and he is feeding in the only manner he possibly can. His darting moves and sharp talons help to keep the smaller birds alert and wild, and that's the way it should be.—DGP Al Scott, Rural Valley.



What???

LEBANON COUNTY—Returning home one evening recently, I switched on my Code-A-Phone to get the day's messages and heard a conversation between two women with Pennsylvania Dutch accents that went something like this:

"Hello, hello."

"What's going on?"

"I don't know. He talks so fast, I could not answer him still. He just hung up."

"Who does he think he is?"

"I'm already tired. This number I'm going to call again."

"No, call the police."

I was disappointed that I never had the pleasure of knowing what that call was all about.—DGP Ron Sutherland, Campbelltown.

How to Find Grouse

RLSC—Ever hear someone say “We just don’t have the grouse we used to?” To a certain extent this may be true. It is also true that the Game Commission is directing a good deal of effort toward grouse habitat management with hopes of improving their population in the state. Habitat is the key word. Places where you saw plenty of grouse ten years ago have probably undergone extensive vegetation changes. So in planning your next hunt, be sure to scout for areas similar to the “old” hot spots. If food, cover, and shelter are present, chances are good of finding new and often unknown grouse populations.—Trainee Robert L. Lumadue.



Dow Jones Down

PIKE COUNTY—One of the objectives of our black bear research program is to determine food habits, primarily by examining the contents of fecal samples which are collected near bear rest sites. These sites are located by following radio-instrumented bears. One sample collected from a bear that frequently visited a sanitary landfill in Lackawanna County included shoelaces, crushed glass, and a large quantity of newspaper. Upon closer inspection of newspaper fragments, we determined that the bear had eaten the *Wall Street Journal*! (I can’t believe he ate the whole thing!)—PGC Black Bear Researcher Gary L. Alt, Newfoundland.

Need a Secretary

RLSC—Those people who have the illusion that a game protector spends all his time enjoying the great outdoors are sadly mistaken. During my eleven months of training, I have been buried by enough forms and monthly reports to make me wonder if I will ever have time for anything else. In this respect, the game protector’s work is no different from many other jobs.—Trainee Steve Gehringer.

Finally!

VENANGO COUNTY—When does hunting season really end? It’s rather hard to tell. For some, it could be the arrival home with a buck on opening day; for others, it may be that day in January when the calendar counts down the last day of the extended small game, archery or muzzleloader season (unless you are a fox hunter or a trapper). . . . For a game protector, it’s that day when your wife answers the telephone and shrieks, “It’s for me!”—DGP Leo C. Yahner, Franklin.

Chubbiest Chickadees!

SCHUYLKILL COUNTY—In February, approximately 300 bird fanciers converged on the Soil Conservation District office in Pottsville to pick up 23,000 pounds of birdseed. The SCS had asked me to bring along Game Commission literature on birds. In addition to paying for their seed, these people purchased \$71 worth of publications. The best seller was the Game Commission’s book, *Pennsylvania Birdlife*. Many people commented as they picked up their 50-pound bags of seed that they had already purchased 100 to 300 pounds of seed this winter. You could say that Schuylkill County can boast about having the heaviest birds in the state—jumbo juncos, the fattest finches, the chubbiest chickadees and the most corpulent cardinals. No wonder so many winter here in Pennsylvania; they’re too darned heavy to fly south.—DGP Stephen L. Opet, Tamaqua.

Mineral Lack May Hurt Antler Growth

By Ted Godshall

Lack of phosphorus in the diet may account for small antlers on yearling bucks, according to researchers at Pennsylvania State University.

Experiments carried out at the Deer Research Facility at University Park showed that yearlings whose feed was supplemented with phosphorus developed larger antlers than bucks whose diet would just maintain normal body functions.

If nutrients are in short supply for yearlings, they are used for skeleton growth. In mature bucks, the contrary is true: for them, antler growth takes precedence over skeletal growth, and in fact the skeleton may even be "robbed" of minerals needed to grow antlers.

Paul A. Reitz of West Mifflin, graduate assistant in animal nutrition, believes the lack of phosphorus in deer browse is a factor underlying the hunter's perennial complaint about small antlers.

Twenty bucks were used in the study, divided randomly into two groups fed low and high levels of phosphorus. Reitz said development of winter coats and "rubout" of antlers from the velvet stage were both com-



PSU graduate assistant Paul Reitz with antlers from yearling bucks. Those in top row came from deer fed supplemental phosphorus, bottom row came from deer on low phosphorus rations.

pleted about two weeks earlier among deer fed high levels of phosphorus than among those without supplemental phosphorus.

Hunters may not realize that about 80 per cent of the bucks killed in Pennsylvania each year are yearlings, stated Dr. Robert L. Cowan, animal nutritionist in charge of the deer feeding experiments.

GAME NEWS Cover Prints Available

In answer to numerous requests, we can now supply a selection of GAME NEWS covers in a size and format suitable for framing. A set of four covers, all by internationally-acclaimed wildlife artist Ned Smith, now is available. These are full-color prints, enlarged to 9x12 inches on 11x14 heavy, coated paper, without the GAME NEWS logo. The set includes Ned's woodcock from the April 1974 issue; the woodchuck from July 1974; the doves from September 1972, and the buck and doe from the December 1971 issue. These prints are not available individually. The price is \$3 per set, delivered. Make check or money order payable to Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120.

Days of Yore



RABBIT HUNTING TRIP in the 1920s provided lots of action for Harvey Werner, Leroy Werner, Raymond Foltz and William "Doc" Werner, all of Mohnton, Bucks County. The car is an Essex touring model. Photo from Woodrow "Boshty" Werner, Mohnton.

Ex-Director Honored

Seth Gordon, executive director of the Pennsylvania Game Commission from 1936–48, recently received the National Wildlife Federation's Special Conservation Award. After retiring from the PGC, Gordon became a private conservation consultant and later worked for eight years as director of the California Department of Fish and Game. The award honored his 65 years of national leadership and dedication to conservation. Gordon, the NWF noted, was one of the first administrators to develop realistic hunting regulations and to obtain general public acceptance of modern principles of game management.

Tentative Opening Dates For 1979

The following tentative opening dates for the 1979 hunting seasons have been announced by the Pennsylvania Game Commission: archery deer season, Saturday, September 29; early small game season, Saturday, October 13; general small game season, Saturday, October 27.

The antlered deer season opening date in 1979 is November 26.

Lasts A Long Time

Some turtles are capable of producing fertile eggs up to four years after mating.

To Keep Their Figures

Snakes have been known to live a year or more without eating.

On Anonymity

From time to time we receive anonymous letters. Most of these are vitriolic diatribes, full of hateful spleen and mostly empty of logic or reason.

Now, we have nothing against opinions which differ from ours. We hardly expect everyone to agree with all our actions or opinions. No agency in the public eye expects that. Nor would we want that, because the only way you can avoid criticism is by being so spineless and wishy-washy that you never take any decisive position or action. And that would mean we were copping out on our responsibilities to manage the wildlife resources of the commonwealth according to the best available professional techniques.

What we do object to is the anonymity. It's our belief that any individual who expresses an opinion has the responsibility to identify himself. This is not only a moral obligation, but a practical one as well. We cannot respond to anonymous letters, and to write something which cannot be responded to is tantamount to saying

that you're not interested in our explanations, only in your side of things. That's selfish and childish.

We cannot understand why a reasonable person would refuse to identify himself when expressing his opinions or facts. What can he be afraid of? That we will harass him or take away his hunting license? Huh-uh. It just doesn't work that way. In the first place, we couldn't do that under the law. And in the second, we're just not that petty. Why should we bother? We have far better use for our energy than to harass those who disagree with us.

Every letter which is signed and return-addressed is read and answered. The same cannot be true of anonymous mail, of course. Since we can't answer such letters, we rarely read them. And since there's no good reason for filing them, we just dump them in the trash can.

So, if you haven't got the nerve to sign your letter, don't bother to send it. You're just wasting your time and your stamp.

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WOODLAND THOUGHTS

BY LOU HOFFMAN

Wildlife Education Specialist

June doesn't mean much to a mountain. Probably about as much as any given second does to your lifetime or mine, since that hulk of a hillside is pushing several hundred thousand years—or maybe more. But June is an alive time of year. Saps and juices flow and all the tightness of yesterday's winter is unwound. Summer's around the corner, and soon the warm days will give way to sweltering heat. Humidity will replace spring breezes and sweat beads crowding foreheads will have no place to go. With almost every twist and turn they will spill off noses and slide beneath collars, spreading their discomfort.

June is the time of the female, and is sometimes almost as moody. But it's a rich mood, and after the past winter thoughts of heat (even sweat) are welcomed by most everyone. And the fields which for so long were blank, sterile white are now green. Nature paints her landscape with a fertile brush. She's full of the newness of birth, and cycles are reinvented all over the mountain. Youngsters of all kinds add a ground-level freshness to go with the green canopies overhead.

June is a time to be on the mountain. So let's be there.

THERE ARE A lot of mountains in Pennsylvania, but every outdoorsman has his favorite. Sometimes they're close, sometimes they're far from home. But they're never far from the outdoorsman's mind, and it doesn't take much effort to mentally wander

to that second home, whatever the season.

But being there overshadows any image painted by memory. And to the alert traveler, getting there can be a pleasant part of the journey. Along the way to that special mountain, landmarks that register in different ways break the monotony of the drive.

Notching sections of the trip according to those landmarks is a natural way to eat up the miles. A rocky cliff along the Big Susque is splashed with wild flowers. Clinging desperately to tiny pockets of soil trapped among the cracks and crevices, columbine, 'breeches and saxifrage fleck the reddish-brown escarpment with welcoming colors. But the sharpness of its face doesn't soften, and I marvel at thoughts of how Western bighorns could scale its wall.

The next mark along the way is a flooded marsh just before the turn away from the river. There, as always, I see several kinds of waterfowl. Mallards, geese, shovelers and herons make me glad I noticed.

But as I break away from the ridge-and-valley section, my gaze locks onto a new view—the Allegheny Front. The "real" mountains, the ones that grabbed my spirit as a boy, the ones that have never let go.

My imagination starts to boil over the looks of a bump on the far ridge, way out there on White Deer. She's a big old mountain that, when climbed, puts me over the hump of the trip. Of course, the bump is really a point or a

knob, much like that special one farther north, the one I've stood watch on for hours, maybe looking for deer or maybe just looking. The wrinkles on either side show up like creases on the face of the mountain. They are really little draws with washed out bottoms that carried away the melting snow only weeks ago. And the wrinkles will deepen with the runoff from upcoming summer storms. Even a mountain can't stop her aging process.

A few more miles and I'm on the Allegheny Front via the Coudersport Pike. Scores of things make up memories of "the pike" slicing toward Mt. Broadhead. What I remember just there alone is usually worth the trip.

Journeys to that special mountain get richer with each jaunt, and my eyes, sharply honed, become more than just organs of sight. They begin to feel.

And that's the thing that made us come to this mountain—feelings. The deepest ones focus on the ridge we've tramped the most. Or maybe they center on the hillside we've studied longest. One of those sprawls directly across from the cabin's front window.

That's where the big unwind begins. Camps and cabins are great relaxers. After four hours of serpentine through potted macadam, their normal early dampness isn't even noticed. But back to that hill across the way.

Binoculars, spotting scopes and bare eyes have studied her throughout the seasons. But with June she puts on a dressing that covers those wandering about her seeps, nooks and benches. As a kid I wished to be able to see all the deer on her slope with some kind of Superman-ish eyes. But to see what she's hiding, you've got to walk her slopes.

Tired old wolf trees left with only limbless and broken trunks are some of the bigger occupants beneath the canopy. They're home for thousands of insects and feeding stations for countless birds. Bees sometimes turn them into honey factories and coons and possums might make their dens there.

Nearby, club mosses offer year-round green. Up close they look like miniature forests of their own, though they're only four to six inches high.

But their thick clumps of dark green lace an otherwise drab landscape.

Helping to break that drabness are the wildflowers. Intermittent groups of spring beauty and Dutchman's-breeches sprinkle fresh color all over. And messes of leeks soak the air with memories of ham or trout suppers only a little while back.

Another thing that catches my eye are the burls. That's the technical name for those large bumps and swellings on the limbs and trunks of some trees. Their unpredictable forms add personality to each section of the mountain. They're so unique I use them for bearings when in strange country.

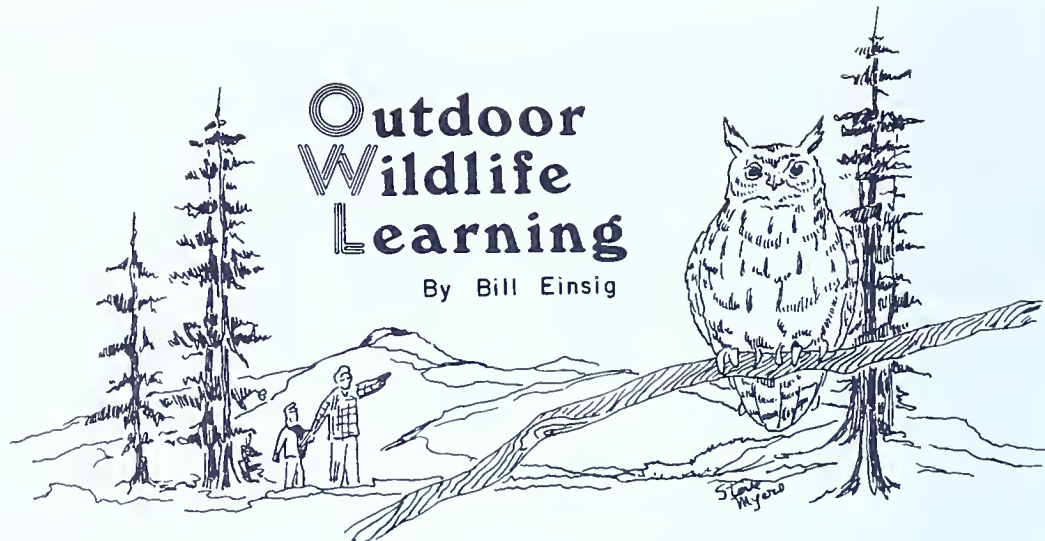
All those things, and more, are there for every walker. They can't crouch secretly to go unnoticed. They can't take wing and fly off the bench. And they can't run off to circle the ridge, only to return when you're gone.

But there's a whole crew of things that can move out quickly, even without offering a glimpse of enjoyment. Sometimes they'll seem unconcerned by human presence. Sometimes they'll give a distant salute with a white flag. Or sometimes they'll leave you with an electrical charge after they explode underfoot. Those animated events leave a more personal remembrance of the mountain.

At other times you've got to examine closely the surroundings to piece together the sign they leave for you to unravel. Drillings, scratchings, rubs, scrapes, tracks, gnawings—more things than I can mention—are all part of the constant quizzes flashed to the walker. And they're not easy tests. Each one is a little challenge which, when solved, reveals a happening on the mountain.

When you gather enough of those happenings and arrange them well, you start getting to the real meaning of the mountain. The lure that pulled you to this place is changed into the lore you'll take home. And the revelation is as dynamic as the change from a clumsy caterpillar into a graceful butterfly.

I think you know what I mean. And I know you agree that words can't do justice to the lure, and lore, of a mountain. So it's time to put down this pen and go there.



Perhaps no OWL column has generated as much response as the description of the Wildlife Identification Survey in the February issue. A goodly number of folks in and around Pennsylvania feel nature study is as important a topic as any in our effort toward understanding our environment. Some readers have described their own efforts involving such a survey, and others are interested in getting started on their own. As more of this work is done, OWL will be interested in receiving the results. Please don't hesitate to send your ideas and comments this way.

Wildlife Posters—Revisited

It's time to get those Game Commission Bird and Mammal posters off the wall and put them to work. Here are eight sets of questions designed to make youngsters (and oldsters) really see and think about what they're looking at. Some questions can be answered by careful observation of the poster while others require elementary research.

The questions and eight posters can be used in a variety of ways. Small groups of 3-4 students can work together on each poster as they rotate through eight stations. A more intensive study could feature one poster a week with other activities related to that general group of animals.

Flash card games can be made by cutting individual species from the posters and plastic laminating them after the species name has been added to the back. Students practice sight recognition by "flashing" one card at a time. In another game, each student draws a card then "acts out" that animal for the rest of the group.

A favorite game that really emphasizes observation skills could be called "animal clues." Each student draws an animal card and makes up a list of clue characteristics. Clues are given one at a time until the animal is guessed. Posters may be used during the game, depending on student ability. Score one point for each clue given before the animal is discovered.

One final objective should be the ability to recognize the several species on each poster. The emphasis on this, however, will have to vary depending on grade level, student ability and the poster itself. Students should learn to look for distinguishing characteristics that set a species apart in the field. For instance, the ring-necked duck does have a chestnut ring around the neck but it's only visible up close. The white ringed bill and white side patch are very conspicuous and diagnostic field marks.

As you put the posters to work you'll find dozens of new ideas. Why not pass them along to OWL?

POSTER QUESTIONS

Waterfowl

1. How did the Baldpate get its name?

Answer: The white forehead makes the bird appear "bald."

2. Which two birds have long thin tails?

Answer: Old Squaw and Pintail.

3. Compare the bills of the Hooded Merganser and the Shoveler. How are they different? How do you think their diets compare?

Answer: The Hooded Merganser has a slender sharp bill designed for catching

fish while the wide flat bill of the Shoveler is used for eating aquatic plants and occasional small invertebrate animals.

4. The Redhead and Canvasback are very similar, but compare their heads. How are they different? Sketch a head profile of each bird.

Answer: The Canvasback is somewhat larger, has a whiter back and a flattened head-bill profile.

5. Which Merganser does not have a crest?

Answer: American (common) merganser.

Research Questions

A common swan in our area is the Mute Swan. How does it differ in appearance from the Whistling Swan? What is the origin of the Mute Swan? Why isn't it included in this poster?

Research Topics & Activities

1. Waterfowl migration
2. Flight patterns
3. Waterfowl nests
4. The wood duck story

Marsh & Water Birds

1. List three differences between the Herring Gull and Ring-billed Gull.

Answer: Ring-billed is smaller, has yellow-green legs rather than pink and, most obvious, has a black ring around a yellow bill.

2. How are the Herons and Egrets adapted as wading predators?

Answer: They usually have long legs, long necks and long spear-like bills.

3. What three birds have black markings on their bills?

Answer: Ring-billed Gull, Pied-billed Grebe, Coot.

4. Kingfishers have very short legs. Study the bill and large head. How do you think they feed?

Answer: They dive from air into water where they capture small fish.

5. Does the Tree Swallow seem out of place? Why was it included?

Answer: The Tree Swallow is commonly seen catching airborne insects over bodies of water.

Research Questions

1. How are the patches of bright color important to the Red-winged Blackbird?

2. How are the legs and feet of Grebes different from those of Ducks?

Winter Birds

1. List three differences between the Hairy and Downy Woodpeckers.

Answer: The Downy is smaller, has a shorter bill and dark barring on the outer tail feathers.

2. Which bird is best adapted to eating seeds—the Shrike, Cardinal or Nuthatch?

Answer: The husky bill of the Cardinal can break seeds open; the Shrike feeds on small mammals and the Nuthatch eats insects.

3. Which birds have a conspicuous crest?

Answer: Pileated Woodpecker, Cardinal, Bluejay, Tufted Titmouse.

4. What two characteristics set the Tree Sparrow apart from other birds?

Answer: Central breast spot, two-toned bill.

5. Which bird has a very peculiar bill used to remove seeds from pine cones?

Answer: Crossbill

Research Questions

1. Compare the feeding behavior of the Brown Creeper and the Nuthatch.

2. Does the poster show a male or female Hairy Woodpecker?

Birds of the Forest

1. Compare the toe arrangement of the woodpecker with that of other birds on the poster. How is the woodpecker foot specialized?

Answer: Two toes forward; two back. Designed for clinging to vertical trunks while feeding.

2. Which warbler looks like it's wearing a ski mask?

Answer: Hooded Warbler.

3. Which is our state bird?

Answer: Ruffed Grouse.

4. How does the Wood Thrush differ from the Hermit Thrush?

Answer: Wood Thrush has larger breast spots and a rusty head.

5. Which bird has a black mask, red spots on wings and yellow edges on tail feathers?

Answer: Cedar Waxwing. The red "spots" are wax-like quill appendages.

Research Questions

1. How many game birds are on this poster? Name them.
2. Compare the coloration of the Red-headed and Red-bellied Woodpeckers.

Research Topics

1. Ben Franklin and the Wild Turkey.
2. Mating behavior of the Woodcock.

Birds of Field & Garden

1. At first, the Indigo Bunting looks like a Bluebird. How are they different?

Answer: The Bluebird has a rusty breast and the Indigo Bunting is all blue underneath.

2. Which bird might be confused with a Robin? Make a list of how they're different.

Answer: Baltimore Oriole; many ways.

3. Which bird holds its tail up at a sharp angle? Compare it with the tail position of other birds.

Answer: House Wren; short, rounded tails cocked up are typical of most wrens.

4. How is a Goldfinch different from a Yellow Warbler?

Answer: The Goldfinch has a black cap, unstreaked breast, black wing feathers with white bars, etc.

5. List the birds on the poster that wear "necklaces."

Answer: Ringneck Pheasant, Killdeer, Meadowlark, Flicker, Barn Swallow(?).

Research Questions

1. How many game species are on this poster?
2. How many species are protected by law?
3. Sketch a Baltimore Oriole nest.
4. Which three birds on this poster are mimics?

Research Topics

1. Origin of the Ringneck Pheasant.
2. Distribution of the Ringneck Pheasant.
3. Feigning behavior of the Killdeer.
4. Build a Bluebird box to correct specifications.
5. Design a Purple Martin apartment.

Birds of Prey

1. What things do all of these species have in common?

Answer: Powerful feet, sharp talons, tearing beaks, etc.; all are carnivorous.

2. What peculiar adaptation does the Turkey Vulture have for feeding on animal carcasses?

Answer: No feathers on head.

3. Compare the position and size of the ear tufts on three species of owls.

Answer: Horned Owl—larger, outside of eyes; Longeared Owl—smaller, closer together, above eyes; Screech Owl—similar in position to Horned Owl but smaller.

4. Which two owls do not have yellow eyes?

Answer: Barred, barn.

5. How is the eye position of owls different from that of hawks? How is this helpful to the owl?

Answer: Owl eyes are directed forward, which gives them better depth perception.

Research Questions

1. Why are the two Screech Owls different colors?
2. What are owl pellets?
3. Describe the feeding behavior of the Osprey.
4. Does the facial disk of an owl perform a useful function?

Research Topics

1. The Peregrine story
2. Visit and report to the class about the Hawk Mountain Sanctuary
3. Fall hawk migration
4. Raptors and pesticides

Mammals of Farm and Woodlot

1. Which mammal is well adapted for living continuously underground? What special adaptations does it have?

Answer: Eastern Mole; powerful front feet for digging, reduced eyes, sensitive whiskers, etc.

2. How does the Fox Squirrel compare to the Gray Squirrel?

Answer: Larger and tinged with rusty orange instead of white.

3. How do you think the Opossum uses his hairless tail?

Answer: Holding, balance, as a "fifth hand."

4. Only one mammal is capable of true flight. Which one and why not the other?

Answer: Bat; Flying Squirrels can only glide on flaps of skin.

Research Questions

1. How many of these mammals are members of the squirrel family?
2. Why are these "mammals"?
3. The most abundant mammal in Pennsylvania is on this poster. Which one?

Research Topics & Activities

1. Echolocation—bat sonar
2. Animal tracks
3. Trapping furbearers
4. Hibernation

Mammals of the Mountain

1. Which mammal has little tufts of hair on its ears?

Answer: Bobcat.

2. Compare the antlers of the Elk and Whitetail Deer.

Answer: Elk antlers are larger and curve upward to the rear.

3. Which mammals have specialized tails?

Answer: Whitetail Deer—signal by raising; Beaver—signal by slapping water; Porcupine—protection; Otter—swimming; Bobcat—certainly is unlike other cats but who knows why?

4. Which mammal would probably permit you to approach most closely?

Answer: The one that doesn't depend on getaway speed—the Porcupine.

5. How is the Snowshoe Hare designed for survival through the seasons?

Answer: Changes coat to blend with surroundings.

Research Questions

1. Make a chart that groups these mammals as herbivores, carnivores, or omnivores.

2. This poster is unusual. Sighting of any of these creatures in the wild stirs strong emotions and causes a great deal of excitement. Why is that?

Research Topics

1. Antler growth
2. Elk in Pennsylvania
3. Beaver dams

Bird and Mammal Charts can be ordered from the Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120. Set No. 1 (20x30 inches) includes Winter Birds, Marsh and Water Birds, Waterfowl and Birds of Prey; \$2 delivered. Set No. 2 (20x30 inches) includes Mammals of Farm and Woodlot, Mammals of the Mountains, Birds of the Forest, and Birds of Field and Garden; \$2 delivered. Set No. 3 (11x14 inches) includes all eight charts listed in Set 1 and Set 2; \$2.25 delivered. Individual charts not sold in either size.

Books in Brief . . .

(Order from publisher, not from Game Commission)

The Mourning Dove, by John Madson, Conservation Department, Winchester Group, Olin Corporation, East Alton, Ill. 62024, 114 pp., paperbound, \$2. The latest in a series of excellent references on various game bird and animal species. Covers life history, management, hunting, etc.—everything almost anyone might want to know about this popular bird, by one of the country's top outdoor writers. The following booklets are still available in limited quantities at the same price: **The Cottontail Rabbit**, **The Mallard**, **The Ring-Necked Pheasant**, **The White-Tailed Deer**, **Gray and Fox Squirrels**, **The Elk**, and **Ruffed Grouse**. There's no handier way to get extensive information on these species than these booklets.

Handloader's Digest, 8th ed., edited by John T. Amber, DBI Books, Inc., 540 Frontage Rd., Northfield, Ill. 60093, large format, paperbound, 288 pp., \$7.95. Over 40 feature articles basically slanted toward shooters—riflemen, shotgunners and handgunners—who roll their own ammo, plus a large catalog section which lists most of the current equipment available to practitioners of the game. Contributors include Pennsylvanians Don Lewis and Nick Sisley, Bob Hagel, Jack O'Connor, Robert Hutton, Bob Steindler and other recognized experts. Lots of interesting stuff.

Hunting the Whitetail Deer, by Russell Tinsley, Funk & Wagnalls, 10 E. 53d St., NYC 10022, 182 pp., \$7.95. Covers all phases of finding, shooting and utilizing America's most popular big game animal, plus worthwhile information on guns, camping equipment and photographing your trophy. Tinsley, a Texan who killed his first deer at age nine, knows whereof he writes.

Gun Trader's Guide, by Paul Wahl, 8th rev. ed., Stoeger Publishing Co., 55 Ruta Court, S. Hackensack, N.J. 07606, large format, 391 pp., \$7.95. Lists comparative values of some 3700 used firearm models, assumed to be "NRA excellent," in today's market.

AFTER SCHOOL was out for the summer, most of us kids would disappear into those lush mountains which threaten to swallow the little town of Renovo. There we'd spend the summer building lean-tos, swinging on monkeyvines, or playing war games. The mountains were our playground and afforded us a comforting sense of security during the worrisome '50s. Certainly, Khrushchev's missiles would never seek out so insignificant a target.

It was here that I learned to love the outdoors. But it was through my father that I learned to appreciate and respect those blessings which nature bestows upon us. Aside from fishing trips and long hikes into the surrounding hills, my father would take us to a place in Hall's Run where we just sat and listened to the singing of wood thrushes and whip-poor-wills.

During the fall, of course, my dad hunted, but he never brought home much game. I remember but one deer and a few squirrels or grouse for the pot. This was frustrating to a young boy who yearned to brag about his father's powers. It wasn't until much later in life that I understood his philosophy of enjoying his moments in the woods, rather than concentrating on simply killing game.

Many people helped shape my attitudes as I grew up, and one was known around town as Chuck. Chuck Keiper was the game protector stationed in Renovo at that time, and I remember listening, fascinated, as he and other instructors told their stories at hunter safety classes. Chuck was a big, robust man, the kind of person who leaves a strong impression on a young boy. It was my father, Chuck Keiper, and a few old-timers, with their fascinating yarns about the woods during and right after the lumbering days, who shaped my present attitudes concerning wildlife and hunting, and ultimately influenced me to become a game protector.

June 1—I confiscated a fawn from some people in Lawrenceville this afternoon. As usual, it has a bad case of the scours. I got some medicine from a veterinarian in town, but the case is so far advanced I don't know if we can save it. The people who caught the fawn fed it pure cow's milk. A fawn's delicate system simply can't handle such a rich formula.

June 2—After borrowing a pickup truck from our land management group, I drove to the division office to get a load of mallard ducks. These are discarded breeders from our Wild Waterfowl Farm



By Jack Weaver

**District Game Protector
Tioga County**

near Meadville. After laying eggs for the big incubators at the farm, they are banded and distributed around the state for stocking in the wild. These ducks will find a new home on some beaver dams near Arnot.

June 4—DGP Lynn Keller, Ron Clouser, and I drove to Renovo for a special occasion—the dedication of a 50-mile hiking trail through some of the prettiest and wildest State Forest Lands in Pennsylvania. But much more than a trail was being dedicated here, for the trail is named in honor of Chuck Keiper, who served as DGP in Renovo from 1951 to 1973. This says a lot for a man who dedicated his life's work to wildlife, particularly wildlife law enforcement, in Pennsylvania.

June 5—As I drove up to where my bear trap was set, I noticed the heavy steel door was closed. Cautiously, I peered through one of the small ventilation holes in the end. Inside was a frustrated looking raccoon, pacing the length of the roomy trap. The frustration was mutual; maybe he'd missed out on some nocturnal wanderings in search of edible goodies, but I'd lost out on a trap night. Sprung traps don't catch bears, and a raccoon substitute wouldn't add much to our bear research program.

June 9—Each year during fawning time, from late May through June and again during the rutting season in the fall, unusually large numbers of deer are killed on the highways. For some weeks I've been picking up several road-killed deer a day. Between January and July, game protectors are required to extract a jawbone and gather reproductive data from dead does.

This information, along with the jawbone, is sent to game biologists who age each specimen and record the information. They know that, given good range conditions, a healthy 2½-year-old doe should produce twins. If the sex ratio is properly balanced in the herd, slightly more male embryos should be present than female. Should a sample from a given area not show these normal trends, it is an indication of an imbalanced or undernourished deer herd. Field investigation can then be initiated. Based on such information the Game Commission determines the number of antlerless licenses to be allocated for each county. The regulation of each of our seasons is based on varied sources of information from the field. Each year such information must be evaluated before seasons and bag limits can be safely set. This takes time, for the proper management of our wildlife cannot be based on emotional or political whims.

June 10—The fawn I confiscated at the beginning of the month finally died, despite our attempts to save it. Even if it had lived it would have been condemned to a life in a pen. So please, leave them in the woods!

June 14—Yesterday I moved the bear trap to the Arnot dump in order to tag one of the bears frequenting that area. This morning I was pleasantly surprised with a successful catch. Biologist Arnie Hayden came over to tranquilize the bear and collect the necessary data. It was a 270-lb. male, from which Arnie extracted a small and insignificant tooth which will be used to age the critter. After placing a metal tag in each ear, we stretched him out in some shade until he recovered from the tranquilizer.

June 16—Recently the Fish & Wildlife Service has asked the Game Commission to conduct an inventory of all captive birds of prey in the state. Each game protector had to seek out those in his district who had birds. After determining the species, sex, and age we had to ascertain how and when each bird was obtained. All birds of prey have been protected by both the federal and state governments since 1974. Now that we know who legally has live birds of prey, the government will be able to more effectively enforce regulations concerning their possession.

June 20—A farmer complained about an owl attacking him in his barn, and since he

didn't care to shoot it, he asked me to come up to see what could be done. When I got there I was informed that the culprit resided at the top of a high, shaky looking old silo. I didn't cherish the idea of climbing the rickety ladder while fending off an angry owl. When I finally arrived at the top and poked my head through the open trapdoor, I stared into a pair of unfriendly eyes deeply set into a concave, bald-looking face. It was a barn owl. As I eased a little further through the opening, the owl took off and, circling once, flew off into the safety of the barn's high rafters. Crossing a catwalk, I noticed three naked fledgelings in various stages of development and one unhatched egg. Lying near the young owls were no less than eight freshly killed mice. After checking to be sure the blower wouldn't bother the young, I climbed down to report my find. The farmer, delighted over the dead mice, agreed that the owls could stay.

June 22—A farmer near Cherry Flats called to report he had caught two dogs chasing deer. When I picked up the dogs at his barn, I recognized them as my neighbor's Labs. I took them home and sold my neighbor some stock in the Game Commission. Neighbor, friend, or relative doesn't count when it comes to enforcing the Game Law.

June 25—Deputies Jack Richards and Jim Farr accompanied me to Galeton for a two-day tactical police pistol training course conducted by the FBI. This is an excellent course which includes shooting with both hands, from different distances and positions, and from behind barricades.

June 26—While I was in Galeton today, Deputy Dave Darby checked the bear trap, this time on the Blossburg dump, and found we had another bear. Dave helped Arnie Hayden take care of the bear which weighed well over 300 pounds. Since the mating season is now in full swing, I'll wait until later this summer to try to capture any more.

June 29—Many people don't realize that game protectors are unionized. We belong to a local which includes the waterways patrolmen. Today there was a union meeting near State College, so I took the day off to attend. At contract time we negotiate, like other government agencies, with the Commonwealth for wages, hours, working conditions and equipment.

Thornapples



Chuck Fergus

THE Slaterbeck.

It joins the First Fork near a wide rocky bend, a bend with an island in the middle.

You stand on the west bank of the First Fork and look across to Slaterbeck Run. You look where the run comes out of its narrow, lush valley. Where it catches a glint of sun. Where it twists onto the floodplain and loses itself in the sedge, meandering like a kid on the way to school, preserving its independence until the very end.

You look where it joins the big creek.

Your gaze, too, joins the First Fork, which you must cross to get to the Slaterbeck. The First Fork is up; it grinds on the island, churns against the far bank. You look a long time, until the creek seems to go still, and the far bank appears in motion, floating upstream.

It must be five minutes before you break the trance, before you surface to sun and sky and the feeling of breeze in your hair.

You get ready to cross.

You undo the hipbelt on your pack and loosen the straps, because if you take a header in the water, you want to be able to ditch the weight fast. You probe the edge of the First Fork with your hiking stick, and, before you have time to think about it, step into the creek.

The water hits your shins like a sledge. It seeps through your boots and grips your feet, and you brace the stick on

the down-current side and take a step. The creek slides up your legs, catches at the bottom of your hiking shorts. Again the water plays a trick which almost throws you off balance: it is not moving, no, but the stones in its bed—yellow and brown, ghostly beneath the turbid water—are slipping upstream.

When you splash onto the island, your feet no longer feel connected to your ankles. Your legs are red, and the hairs are pressed into rivulets. You stand in the sun, waiting to get your breath back.

On the other side of the island, the water is faster, deeper. You press the stick. Take a step. Thrust the stick ahead, feel it catch among the stones and step again. The water keeps coming. Twice it sets you reeling, boots soles scrabbling on the rocks, head pounding. You lean into the stick and fight the current to a standstill and force yourself to take yet another step. Above the rush of the creek you hear a strange sound, a deep grunting; and then you realize the sound is coming from your own throat.

When you make the bank, you sit and let the sun drive the trembling from your legs. You look at the sky and the mountains hazy on the horizon. Insects buzz, and a linked pair of damselflies whir past. You stand and move off through the knee-deep floodplain grass, the memory of the big relentless creek already on the fade.

You forget about the First Fork—even though you must cross it again three days hence—because it's the Slaterbeck you are here for.

The Slaterbeck comes out of a cleft between two mountains. In the cleft the air is cool. You hear the hum of water, and upstream the rattle of a kingfisher telling the run that a man is on his way up.

As you walk, your body loosens and finds a rhythm. The green trees and yellow-green dappling light and gray rocks and red dirt banks—all dazzle. The Slaterbeck pitches over lichen-covered boulders. It cuts past a buttonwood pool beneath a fallen hemlock, spreads out to cover wide, tabled rocks.

You're back.

In winter, it was different, and the same. A smell hung in the air, a stuffy, frozen smell that reminded you of the inside of a house that had stood shuttered a long time. There were tracks: mink tracings on the bank, four-toed marks of ravens at a deer carcass, bobcat prints, and the path of a squirrel that hopped down a widowmaker, scalloping the snow.

But the Slaterbeck had been running, even then. It flowed black under ice and broke free and sang over rocky shallows. On its banks the rhododendron stood with shriveled leaves. That night it was too cold to sit by a fire, so you crawled into the sleeping bag and watched your breath go up in clouds toward the sparkling sky. In the night the wine froze, and when you woke at dawn your mustache and beard were crinkly with ice.

You're back.

Shadows are distinct in the bottom of the Slaterbeck's valley, and the sky is a narrow strip roofing mountain walls. Clouds move sluggishly, sometimes blocking the sun. It is late June, the summer solstice, when the year's greatest amount of light reaches down to the Slaterbeck, and still it's a dank, dim place.

The hollow is lush. Ferns, saxifrage, ragwort, boneset grow thick; blue-eyed grass and flowers of cinquefoil and wood sorrel peer primly from the banks.

You hike past a rock wall. In the wall, six feet above the ground, is a scooped-out hollow the size and shape of a cupped hand. In the hollow is a nest, and in the nest sits a small bird. It is a phoebe, an olive-green flycatcher that preys on the many insects inhabiting the Slaterbeck. You know the bird is a phoebe because a phoebe has nested in the same cup each of the last four years. You like to think it's the same bird, but doubt that it could be.

You try not to frighten it as you pass.

You stop to eat on a shady bank above a deep, quiet stretch of water. Scanning the sky between the mountains, you watch the passage of thunderclouds. You finish a sandwich and throw a small piece of ham fat in the





run. It floats ten feet and is gone at the center of a widening ripple.

It was spring.

The valley of the Slaterbeck was in shadow, full of tentative, floating bird songs. You had caught three trout farther downstream and were hurrying back to camp, trying to get there before it got too dark to clean and cook the catch.

The pool stopped you: the best pool you'd seen all day. You looked for bait and found a sawfly crawling stiffly up a tree trunk. Its abdomen was steel blue, its wings brown and shriveled. It had just hatched and was fanning its wings, trying to dry them.

You ran the hook through the sawfly's thorax—full of wonder at how merciless and yet natural this seemed—and made a cast. The Slaterbeck took the sawfly. The insect struggled the length of the pool, descended gradually, and disappeared in the depths. The strike, when it came, startled you; the trout, when you got it on the bank, was sleek and silver-sided and silver-mouthed, and when you

broke its back and slipped it into the creel, you thought you would never need to fish again.

You stand, shoulder the pack, and start walking. Left and right the mountains rise, covered with beech, birch, cherry, and maple. In the bottomland are hemlocks, an occasional pine and sycamore, hornbeams, and juneberries. The juneberries are scarred with claw marks. You note where a bear climbed into one, broke its berry-laden branches, and drew them in to the heart of the tree. The berries are sweet and juicy.

A mile to go. You stride smoothly up the straight, slight grade, and through your boots you feel depressions in the earth which once were railroad ties.

You camp where you always camp, on a flat patch of ground just up from the water. You pitch the tent where the beech leaves still lie flattened. You lay out the foam pad, unroll the sleeping bag, hang the food pouch from the leaning tree. And then you go down to the flat.

You found the flat one September when the leaves had just begun to turn. In the center of the flat were two apple trees, loaded with fruit, incongruous in the deep woods.

You searched the flat and found a stove lid, a chain link, a big rusty shoe of a work horse. You found bottles: maple syrup bottles, pill bottles, cracked brown whisky bottles, purple-tinted bottles embossed *Shiloh, for Coughs and Colds, Leroy, N.Y.* And at the base of a sapling you found the rusted blade of a crosscut saw, its teeth still bearing file marks.

From that day on, you saw scars. You saw railroad grades, and birches grown around Shay gears and bent rails, and stumps of pines bigger than any trees you had ever seen living. And you saw how time and the Slaterbeck were healing the scars.

You have barely enough time to gather firewood, sling a tarp over it, and race back to the tent before the storm hits. Drops pelt the rain fly, drowning out the sound of the run. The wind thrashes the trees, and the tent

shudders a little but holds as it's always held—in the Winds and the Absarokas and the Cascades and here, home, in the Alleghenies.

It rains for an hour. Drowsy, you lie on your sleeping bag, hands cradling your head, listening to thunder roll up and down the run. When the storm finishes, you crawl out. The sides of the tent are mud-spattered and the trees drip steadily.

You go down to the Slaterbeck. The run is red-brown and full, and above it hangs a sheet of mist. Big rocks poke up, and the mist floats over and around them and down the hollow, a stream on top of a stream.

It takes your breath away. You sit down on one of the rocks and look. You look until the thrushes come out to sing, and dusk takes the run, and still the mist floats.

Later, wool shirt on and collar turned up, you build a fire. The flames leap and throw light on the trees and a rock wall on the other side of the Slaterbeck. And the run of water is contained in the flames, too—in the way they roll and lap over the wood, and hold your mind, and turn it in on itself.

You met a woman who knew the Slaterbeck. She had hiked it, and she knew it. And not just the lay of land, or the animals, or the way the run tumbled; but how all of these dovetail to form a stream that keeps you coming back, back to the Slaterbeck, back to life.

And how, when you pack up and leave, you take the stream with you,

running up there in the good country of your mind.

This woman also understood how you come to think of the Slaterbeck as the setting for many experiences that actually happened elsewhere. Like the time on a mountain trail when you startled a mother bear with four cubs, and the sow popped her teeth, and you felt hair prickle on the edge of your scalp. Or when you came onto the turkeys, a big flock huddled black and silent in the snow, and made a wide loop so they would never know you were there. Or when you saw the sun-drowsy rattlesnake that seemed so unaware of your presence and then was just—gone.

The fire is dying.

You kneel and blow on it. Light-headed, you stare at the slow blue-licking flames and the pile of ash and crisscrossed black wood which has, for the moment, become your universe. The coals glow; yellow light leaps briefly and vanishes.

You straighten. Your mind slides back to where you are—the Slaterbeck.

You see the dark outline of mountains. And the fire's smoke. And the way the smoke joins the mist to roll down the hollow. You smell the smoke and the dirt on your hands and knees, and you hear the constant rush of Slaterbeck Run.

You feel fresh and tired and old and new and above all alive—and you know the Slaterbeck runs.

It runs in the good country.

It runs in the good country of your mind.

Conservation Publications Available

You can get an up-to-date 12-page leaflet listing conservation publications available from the National Wildlife Federation. The leaflet describes each publication, most of which are free for single copies, and lists multiple-copy prices. Some publications are aimed at teachers, some at homeowners, others at anyone curious and concerned about our environment, especially living things. Request a copy of "Conservation Education Publications" from the Educational Servicing Section, National Wildlife Federation, 1412 Sixteenth St. NW, Washington, DC 20036.



GETTING TOGETHER WITH A number of good bowhunters to put on drives can be an effective way to hunt deer in Pennsylvania.

Hunting For Hunters

By Keith C. Schuyler

Photos from the Author

IN A COLUMN such as this about archery and bow hunting, there is little controversy. For the most part, you get one opinion. Mine. This seems unfair at first glance, but columnists are expected to come up with observations and opinions based upon both sound thinking and experience. Yet they are always receptive to thoughts from readers so long as such thoughts appear to be based upon the same ingredients.

My experience with readers has been most pleasant and rewarding. There have been no vicious letters in the fifteen years (this month) I've been responsible for these pages. That doesn't mean everybody agrees with everything written here, but you have been kind. Thank you.

I have been holding back some thoughts that may be controversial. Again, you are getting one opinion. Also some facts.

There have now been twenty-seven special bow hunting seasons in Penn-

sylvania. Much has changed relative to the hunter. His tackle has changed. Public attitude has changed. The attitude of gun hunters toward bow hunting has changed. Hunting opportunities have changed. Fortunately, most changes have been favorable. A few are not. A number of the changes are controversial.

But one thing has not changed. That is the white-tailed deer.

If the deer has not changed, and it hasn't, then why hasn't the ratio of bow hunter success changed for the better?

When the first special bow hunting season was established in 1951, things weren't much different than my introduction to archery twelve years before that. There were *fewer* deer totally being taken than there are today. Bow hunters carried fairly antiquated tackle. Bows were either home-made sticks or the more sophisticated store-bought offerings of Bear, Pearson and an assortment of lesser commercial

tablishments. Bows stacked, twisted, and broke with considerable consistency. Strings frequently came from a same basement where locals also vied with commercial houses in the manufacture of arrows, almost all of them good.

Back quivers were in vogue, a hold-over from the Indians, fletching was feathers, and arrowheads were, for the most part, two-bladed abominations. Bear heads were a notable exception. Camouflage, if any, consisted primarily of dark clothing or old jackets and jeans splotted with the handiest paint available.

But if tackle and equipment were marginal, dedicated bow hunters, for the most part, were sub-marginal archers who knew little about the bow or how to shoot it properly. They ventured forth with arrows spined more to hit their bank accounts (if any) than any relationship to the bow that drove them. Most were over-bowed, still taken in by the he-man syndrome that anyone shooting much under 70 pounds was a sissy. As long as the roadhead projected beyond the bow and at full draw, since some bows still didn't even have arrow rests, it was good enough. It was considered more important to avoid cutting one's fist than to match the arrow to the bow.

Arrows were dumped into any quiver that would hold them, frequently a cardboard tube covered with cloth or paper. Little thought was given as to how the broadheads fared as they snuggled together.

A 45-degree cant to the bow when drawn was popular. This served two purposes. It kept the arrow from falling off the fist or arrow rest, and it also eliminated some of the horrible lateral error caused by improperly spined arrows.

That hunters could hit anything at

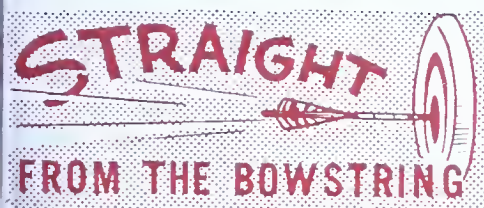
which they aimed was, in itself, remarkable. But they practiced, some faithfully. By improvising for the things not then known about archery tackle and proper shooting, they learned to compensate enough to arrive at fair results. If the arrow didn't slip from the wide-mouth nocks, or sway away from the bow at draw with the twisted strings, and they drew about the same as the last time the arrow scored, they did right well—comparatively speaking. Most were good hunters.

But it still took some doing to kill a deer.

In fact, during the two-week, antlered-deer-only season in 1951, only 33 were taken by archers. It wasn't until both sexes became legal in 1957 that a count can be considered to compare to today's harvest by bow hunters. That year, 55,559 licensed archers bagged 1,358 deer for a success rate of 2.44 percent. And they did it in one week.

During the past year, about 230,000 (total not available at this writing) tagged 4,678 whitetails, a success rate of possibly 2 percent. And it took seven weeks to do it, not counting the extra

TODAY'S ARCHERY equipment, as represented by this Pearson compound bow, is far superior to that available to hunters in the '50s, but the success rate has not grown.



two-week antlered deer season or the two days for baldheaded deer for those with special tags. In only two years since, 1961 and 1965, has the success ratio equaled that of 1957. In the most recent season for which final figures are available, 1976-77, when 225,894 bow hunters took 3,648 deer, the success rate was 1.6 percent.

Now, let's look at today's typical bow hunter.

The Best

He has the best. Whether he carries a compound or a laminated flat bow, it is the product of advanced scientific engineering. His bow, even though it may weigh but 40 pounds, can outshoot almost anything available in 1957. His arrows carry either feather or plastic fletching cut to provide top performance. Multi-bladed broadheads are substantially better and are manufactured to close tolerances. The arrow shaft may be aluminum, so delicately balanced and so straight that it is almost perfect. His bow is decked with movable sights that can pinpoint his shots at pre-set distances. It may carry stabilizers.

You might have to look closely to even find this bow hunter. He wears camouflage suits, hats, gloves and even a face that hides all but careless movements. He may be perched on a tree stand well above the usual scent line and the sight line of his quarry. He may even have measured, and marked with visible stakes, distances which conform to those pre-cranked into his mechanical sights.

Despite all this, evidence indicates that his 1957 counterpart was a better deer hunter.

Look at the figures. Of course, we can't feed into our calculations those who don't report their kills. And, although the average bow hunter of 1957 might have been a cut above the average today, sportsmanship has no claim on any era. While it is becoming more and more necessary, that is another story.

What we are searching for here is a better bow hunter and a better way to hunt with the bow. Have we, going back to the typical bow hunter, become

a bunch of weekend warriors who can walk a straight line without consulting computer printout? Or are there some better answers?

I would never want to go back to the "good old days" of warped longbow, crooked wooden arrows or flax strings. I'm all for the improvements in tackle and in skill that characterize the target line today, indoors or outdoors. But I do question how far we should go in dragging all the paraphernalia necessary to compete on paper targets to the woodland scene. My vision of my version of a deer hunter is of someone crouched on an elevated platform with a strange assortment of calibrated mechanisms, fastened to what once looked somewhat like a bow, waiting for a deer to approach a precisely measured shooting stake.

The marksman is operating within the parameters of the law. Nevertheless, despite all the apparent advantages that accrue to him, he is part of a group which can't compete statistically with the bow hunter of 1957.

It certainly is not because of a deer shortage. Statistically, the total harvest of deer by all means, including highwater kills, indicates that the whitetail is doing right well, thank you. Although there has been a four-fold increase in licensed bow hunters in the 21 seasons used for comparison, the individual opportunity has not lessened appreciably, if at all. The only unknown factor which might upset our calculations to any meaningful degree could be the increase in posted private land. There has been counteracted somewhat by lessening of opposition to bow hunting which was manifested in the early days when the sport itself was controversial. Many "No Bow Hunting" signs have come down.

Experience

But let us lay aside everything that has been written to this point. This, I submit, has been the "sound thinking" part of the approach mentioned in the first paragraph. That leaves us with the "experience" to consider.

All of the preceding centers primarily upon one thought. If the comparatively primitive bow hunter of 1957

could outhunt today's timber toxophilite with his substantially better tackle and skills, why?

In the first place, there is a remaining nucleus of really dedicated bow hunters from the early days who still account for a substantial part of the total take of deer. Since many of these were older archers, age and the happy hunting ground have claimed a considerable number. They have been replaced by a nucleus of young Robin Hoods who are better than the average best of the old bunch. These are the bowmen who have grown up with the improved tackle and techniques. They cut their teeth on the target line and matured on the hunting scene. It has been my pleasure to hunt with and to know a number of them. In total, their hunting scores are way above the average.

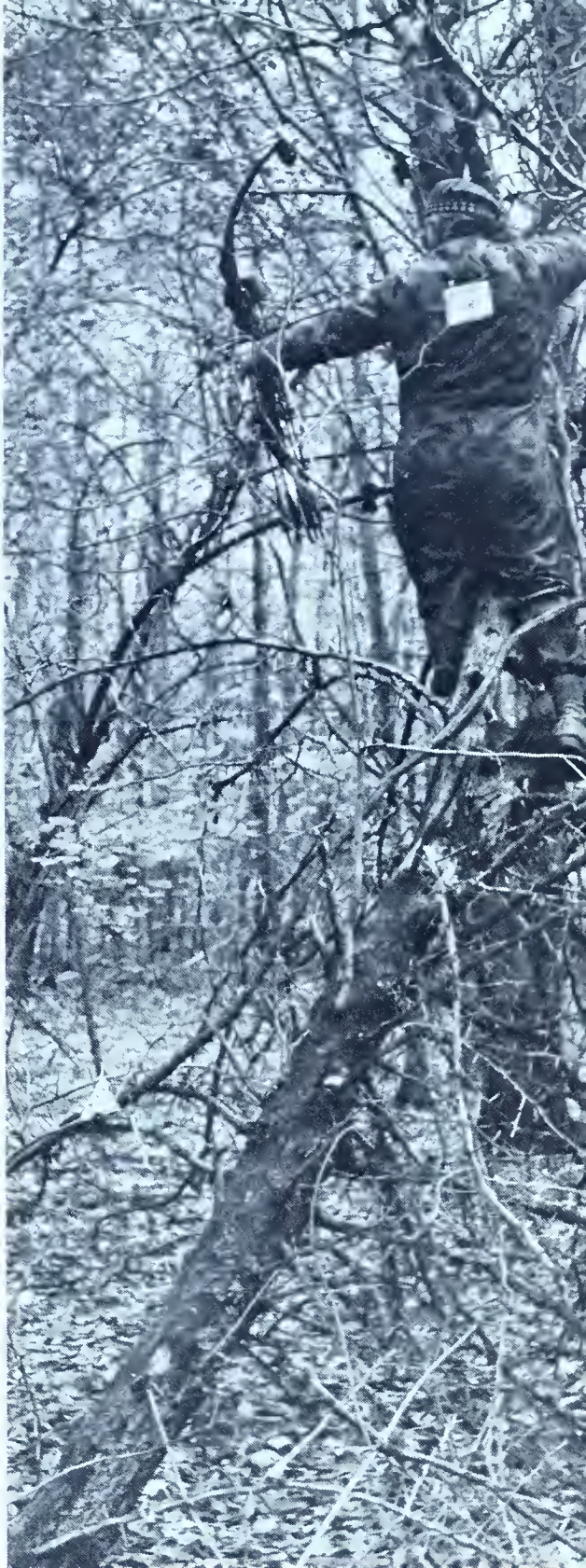
Downhill Difficult

It is pretty tough to relate much in the hunting experience if it consists of sticking a platform in a tree near deer tracks or where some have been seen. Aside from the fact that it is difficult to shoot well at such a downhill angle, it is little different from shooting on the target line. With a stabilizer, compensator, mechanical sights in addition to a string peep, and shooting with a release, one can do a fair job, if he picks the right spot on the deer, and the deer stops at a pre-measured stake.

However, I suggest that we coax this fellow down out of his tree and encourage him to strip himself of any hardware or methods that would be impractical on a real hunt. And let's weed out those who think that improved tackle is a substitute for woodsmanship.

The only stabilizer practical for hunting is the short club-like attachment that is added on some hunting bows for additional weight. Anything longer is likely to get hung up in brush. However, a full bow quiver adds enough weight to help stabilize any bow.

If our hunter needs a sight, he will be better off with a hunting sight having perhaps but one bead sighted in at 20 yards. Any more will only confuse most hunters when they sight a deer at unknown distances. However, if he can



FALLEN THORNAPPLE near a deer runway provides a natural tree stand for Schuyler. Getting a few feet off the ground can help hunter's visibility and make him less noticeable to deer.



CARL DURAL, Wilkes-Barre, had good luck last October, taking this fine 8-point trophy on State Game Lands 57, in Wyoming County.

use a sight, it is a great advantage, particularly for older hunters who don't see so well any more.

His string peep will be all but useless under hunting conditions, particularly on dull days, in thick brush, or on a moving animal. It would probably be best to remove it so that it isn't distracting in a marginal situation.

Releases are in a gray area relative to legal requirements (can't have movable parts), and he is better off without one. It can be frustrating if the thing goes off prematurely, assuming it can be utilized in the sometimes mere seconds

that a normal shot at a deer permits.

The camouflage suit is fine; so is that gunk on his face. In fact, camouflage gloves and even a mask are acceptable if they fit properly. If his nose is shiny, he might even add a dab. But his bow and his arrows should also be camouflaged. His shoes should be able to withstand a long hike without wearing blisters or leaking when stomping the marshes or crossing a creek.

Okay. We now have our bow hunter equipped so that he can compete with the vagaries of nature on a par with his aging relative, or maybe himself, of some 25 or so years ago. If he has any hunting sense, and he knows how to use the basic tackle that he has left, he should certainly be able to score as well as bow hunters did back then. He *should* beat them handily.

If he finds an accessible crotch in a tree, a blowdown, or a rocky bluff that will put him above a deer trail, let him take advantage of this find. Or if he can waylay his quarry by hiding in the bushy end of a blowdown, more power to him. If he can get together with one or a number of other good bow hunters to conduct well-planned drives, so much the better. He will still be a hunter.

This seeker of adventure must know his bow, learn to walk softly, let himself be absorbed in the shadows, study the breeze, sharpen his senses and become a part of the scene that he has chosen to test his knowledge and his ability. Perhaps he will become a bow *hunter*.

He will have a tremendous edge on his counterpart of only 20 or 20,000 years ago. The odds will still be many times against him, but he would never want it to be easy.

For him, the *hunt* will still be the challenge.

Bow Hunting In Pennsylvania

The first regular archery season for deer in Pennsylvania took place in 1951, when 5542 licenses were sold and 33 whitetails taken. Subsequent license sales and harvests were: 1955—17,318, 119; 1960—68,051, 1174; 1965—77,485, 2119; 1970—153,935, 2998; 1975—215,570, 5061. The 1977 harvest was 4678. The all-time state record was set in the 1975-76 season, when 5061 deer were taken. Total deer harvest by archers, 1951 through 1977, is 54,936.



AMONG ALMOST COUNTLESS WILDCATS that experimenters have cooked up are the 30-06 Springfield, 6mm-06, 240 Gibbs (also based on the '06 case), 219 Donaldson Wasp, K-Hornet, and .223.

Something Different

By Don Lewis

Photos by Helen Lewis

WE'RE FINALLY in luck," my hunting companion whispered. When we get to the edge of the hill, take a look just to the right of the fallen chestnut tree."

My pal had done some reconnaissance before I arrived. This was the fourth trip we'd made to try for this trophy size chuck that had a den under a fallen chestnut snag. With autumn winds announcing the approach of winter, we knew this would be our final try. If we were successful, I intended to have the chuck mounted.

We eased to a crest in the pasture field that gave a view of a long sloping finger of land that ran for more than 450 yards to a tiny patch of woods. Fifty yards from the woods, the inexorable hand of time had brought down what had once been a large chestnut tree. Now only a decaying white trunk remained, but it shielded from view the

den of what I thought was the largest woodchuck I had seen in many years of hunting. He was visible now, feeding in the low grass.

"You'd better get a steady position, Lewis. It'll take all you and your Swift have together to make that shot under these conditions," my partner commented wryly.

He was referring to little gusts of wind that were rippling the grass tops. He knew as well as I did that the Swift's 55-grain bullet would be hard pressed to stay on course for 1200 feet.

While he was filling me in on what was going on with the chuck, I set up shop. I shoved a shooting rod into the ground and adjusted the arm rest to the proper height for a prone shot. All the time I spent getting ready seemed wasted, as I knew the chance for placing the shot properly was small. I had the 220 zeroed in for that distance, and

had fired several decent groups at the long yardage, but the wind was the demon that could be my downfall.

I was using a 55-grain Sierra bullet in front of 37 grains of 4064. I didn't have a chronograph then, but published ballistics on that load showed a muzzle velocity of nearly 3700 fps. I could have gotten more speed from a lighter bullet, but I felt the extra five grains of weight would pay off over the long range.

Start Shooting

"You'd better quit figuring and start shooting," my buddy advised. "That old chuck is moving closer to the tree, and you know how nervous he can get. One false move and he's gone."

By the time he'd finished with another round of advice, I had the crosswires of the 10x Weaver planted on the chuck's rib cage. My finger was putting pressure on the trigger when the wary chuck bolted to an upright position. This gave me more vertical target to work with, but it was horizontal area that I needed. Still, I knew better than to wait. Moving the reticle across the chuck's chest, I allowed several inches of daylight between the crosshair's intersection and the chuck's body for windage and sent the 55-grain slug on its way.

"You didn't even scare it," my buddy said in disbelief. "I can't understand why he hasn't dived for his hole."

While my friend was talking to himself, I cranked another round into the chamber and widened the aiming gap. This shot sent the chuck scurrying for the dead tree, but my pal claimed he saw the slug hit the ground on the opposite side from where I had aimed. When the chuck paused for a second beside a protruding rock, I opened the aiming gap even more and touched the trigger for the third time. Dust flew from the rock, and the chuck bid us goodbye. I was really let down.

"You know, Johns, with all the affection I have for the Swift, it's no match for the wind on long shots. Those 55-grain slugs must have blown a foot or more off course, and there's no way to figure that out in advance. What I need for these shots is something different,

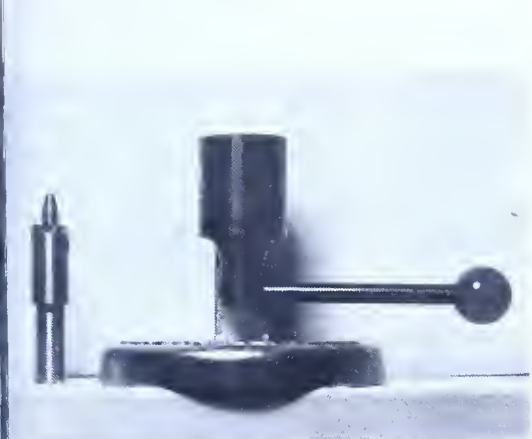
and next year I'll be back with something that'll make that old chuck a part of my den."

It was 1959 when I made that dramatic promise, and I didn't go back on my word. During that winter I somewhat reluctantly traded the Swift and a few greenbacks to a dealer for a 25-06 Niedner Improved. The part about the prophecy that didn't come true was about the chuck. I made a number of trips back to the dead chestnut, but I never saw him again.

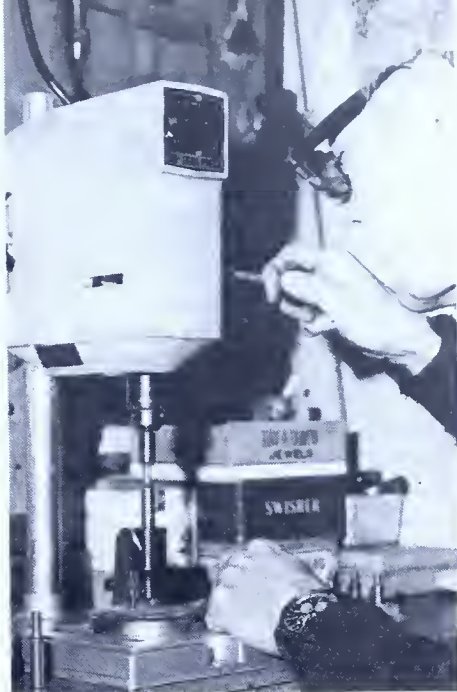
The acquisition of the 25 Niedner, which was the forerunner of the Remington 25-06, did add a new dimension to my long-range chuck shooting. It also added the dubious distinction of having a true "wildcat" rifle. My 25-06 Improved had its cases made from swaging down a 30-06 case and then fireforming the shoulder to a sharp angle. I accomplished this by running a 30-06 case into a 257 file and trim die and then filing off what brass protruded above the die. To fireform the cases, I loaded 9 grains of Bullseye pistol powder in the case, filled the remainder with cornmeal and stuffed some face tissue paper into the neck. On firing, I would get a perfectly formed case, but I must caution that *the use of pistol power can develop high pressures even with light loads*. It's best to start with very low charges and work up gradually.

I doubt if there is a chuck hunter who hasn't given thought at one time or another to going all out for the non-factory cartridge. Back in 1959, a good deal of magazine space was given to wildcat cartridges, and this had a real appeal to fellows such as myself. At that time, the commercial market wasn't flooded with high-quality heavy-barrel varmint rifles chambered for the fine cartridges now available. The wildcat version had

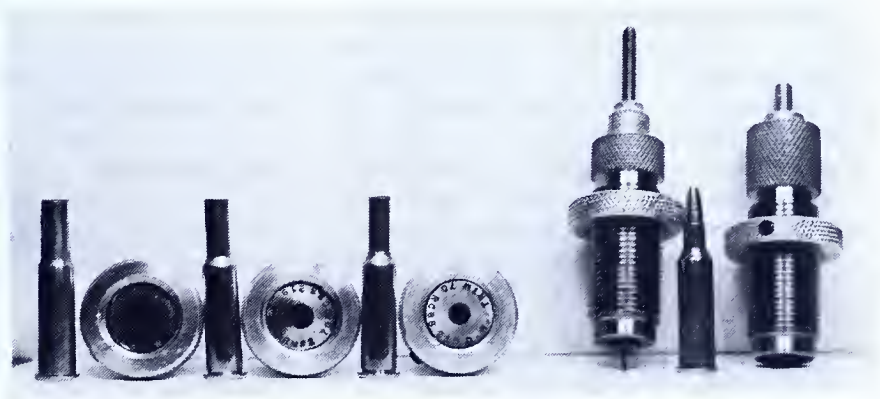




N LEWIS, right, shortens case with a
ster power trimmer (shown above in
seup). Pilot in cutter head maintains
nment during process. Trimmer is much
er and more accurate than old hacksaw
file system.



30-30 WINCHESTER, far left, provides the
basic case for 30 Herrett and 219 Wasp,
shown with it. These wildcats were created
to obtain ballistic characteristics not avail-
able in factory ammo at the time of their
development. Below, successive steps in
forming Wasp cases from 30-30 brass.





A GOOD MICROMETER and a dial indicator caliper are highly useful tools for anyone who experiments with wildcat loads.

mysterious aura to it, implying it had far more to offer.

I read everything I could lay my hands on about the 22-3000 Lovell, 219 Donaldson Wasp, 244 Ackley Improved, 240 Page Super Pooper, 243 Rockchucker, the 25-06 Niedner and others. I left out the most common one—the 22-250, made from the Savage 250-3000 case simply by necking it down to accept a 224 bullet. The 22-250 was the forerunner of the 220 Swift. Even though Swift owners mostly believed their cartridge was far superior, the truth is the 22-250 had it all over the 220 in the accuracy column. The Swift was noted for its speed, but the 22-250 probably won more benchrest matches than the Swift ever attended.

Heyday of Wildcat

I think the heyday of the wildcat stemmed from the lack of high velocity factory cartridges in the smaller calibers. True, Savage offered the 250-3000 shortly after World War I. It was originally intended to use the 100-grain bullet, but Savage apparently wanted to be first with a commercial cartridge that would hit the 3000 fps mark, since no other contemporary commercial cartridge was loaded to that then-fabulous speed. It appears Savage wasn't truly interested in bringing the 250 out as a varmint load, but just wanted a cartridge to reach that velocity. The 87-grain bullet could do that while maintaining safe pressures, and it was a reasonably good varmint load, but from what I can gather, it struck out in the big game column. In 1921, Western Cartridge Co. offered the 250-3000 with the 100-grain bullet, which made it a fine load for deer-class game.

During the gaslight era, speed was the goal of gun companies and gun builders. Cartridges were primarily designed for speed. I'm not implying that everything else was forsaken, but I believe this was foremost in the mind of most gun buffs. High velocity is an intriguing subject, and from the late 1920s through the '40s the wildcat cartridge got an awful lot of attention.

During that period, for instance, the 22 Hornet was born. Captain Governor Wotkins was instrumental in developing the 22 Hornet from the old Winchester 22 WCF case. About 1930 Winchester made ammo for the Hornet (before a factory rifle was available for it), and in 1933 offered their Model 18 Winchester chambered for the Hornet. The 22 Hornet was the first standard U.S. factory cartridge designed primarily for the varmint shooter. (Many avid varmint collectors feel Savage made the first step with the 250-3000. Whether this could be true to some extent, the main idea behind the 250-3000 was just speed; the 22 Hornet was for the varmint buff.)

One cartridge that always eluded me was the 22-3000 Lovell. I had a passing acquaintance with this fine wildcat but never owned one. Hervey Love necked down the 25-20 single-shot case to 22 and used a heavy load of 4227 behind a 50-grain bullet. Velocity was in the 3000 fps range, and accuracy was very good. Since this was a genuine improvement over the new 22 Hornet I can't understand why it didn't make the factory assembly line. I still hope to get one, even though the 25-20 case is fading from view.

Another wildcat 224 that probably surpassed the 22-250 on the benchrest line is the 219 Donaldson Wasp.

Harvey Donaldson gets the credit for coming up with the Wasp. In the beginning, Wasp cases were made from 19 Zipper brass by shortening and re-eking the case and then fireforming it. I'm fortunate to have a heavy-barrel 19 Wasp built on a Mauser action, and have a few Zipper cases that I want to keep in their original state. I solved the case problem by getting a five-die set (three forming dies and two conventional reloading dies) from RCBS. These dies turn out perfect cases from 30-30 brass, and there's plenty of that around.

Some years back, I built a 243-06 on Model 110 Savage action. Sometimes this cartridge is referred to as the 243 Super Rockchucker. It's similar in basic concept to the 240 Page Super Pooper whose designer was the late Warren Page, firearms editor of *Field & Stream* for many years. Page's version was similar to some extent to the 244 Improved that I understand P. O. Ackley came up with by reaming the 244 Remington to an improved chamber, which really means the chamber's neck angle was pushed out somewhat and made to a sharper angle. That's the only difference between my 25-06 Niedner Improved and the standard Remington 25-06 now on the market. The purpose is to get more case capacity for powder.

The 243 Super Rockchucker was designed by Fred Huntington of RCBS and does not have to be fireformed. The first step requires shoving a 30-06 case into a 25-caliber trim die and filing off any protruding brass. The shortened case is then run into a 243-06 full-length resizing die that changes the 30-06's 17°-30' shoulder angle to a 28° angle. This makes the case's neck slightly longer but does not reduce the powder capacity too much for the 7mm bullet. In fact, I think there's still too much powder room for this caliber.

The field of wildcat cartridges is large, and there were probably hundreds of designs that never got beyond the inventor's workshop. In its day, the wildcat served a genuine purpose, but I can't see much need for it now. I might

add that a few of these old-timers stood the test of time, proving their excellence, and are now on the market. We are all aware of the 22-250 and the 25-06, but it may come as something of a surprise that the 6mm's of today are actually grandchildren of the 243-06.

There's a nostalgic ring to the names of old wildcats such as the 25 Souper, 270 Savage, 270-257 Improved, 6.5mmx257 Roberts, and the 285 Luft Magnum—and that's only a few. Each has an intriguing history, and undoubtedly each was made with a specific purpose in mind. The 270 Savage was cranked out by a gunsmith named Bliss Titus out in Utah. When he learned a lot of Savage 99 users yearned for the 270 cartridge in a lever action, he necked down the 300 Savage case to 270. The end result was worth the trouble. The 270 Savage was a heck of a cartridge.

Secret Belief

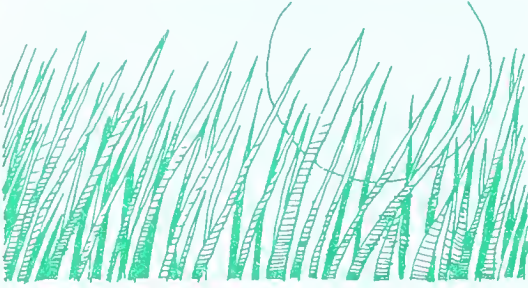
I suppose the strong desire to own an exotic-sounding hunting cartridge creeps into every hunter's bloodstream now and then. I know the feeling. It's a step many of us want to take, but we're often filled with apprehension and uncertainty. We can't shake it because there is the secret belief the wildcat is just a little better than the equivalent factory creation. To many, 7mm-06 sounds more impressive than 270 Winchester, doesn't it? But that alone doesn't make it better. The 7mm-06 is simply a 30-06 case necked down to take the 284 (7mm) bullet. When it's all said and done, the ballistics of the 7mm-06 and 270 are about equal.

If there's a wildcat cartridge embryo imbedded in your shooting veins, then get one. My only advice is, don't expect miracles. It's unlikely it will greatly overshadow cartridges of the same caliber that are available from the factory. Right there is where my advice ends. The rest is up to you. If you are sure what you now are using isn't what you want, then linger no longer; go for something different. . . .

In the wind

toni williams

information writer



Another rare bird, thought to be extinct, has surfaced again. It's the white-winged guan, a vaguely turkey-like bird of the tropics. Previously seen last in 1877, the guan was identified by both an ornithologist and a Peruvian villager.

One of the worst oil spills in history—worse than the Torrey Canyon disaster—has blackened over 70 miles of French coast. Choppy seas off Brittany kept rescue teams from stopping the flow of oil. This disaster comes in the midst of increasing pressures to open U.S. offshore oil fields to drilling, and may encourage a second look at the environmental ramifications.

Hunters again work to save wildlife habitat—and it looks as if they're gaining ground. Four Tennessee hunters have battled the Corps of Engineers to save lands threatened by the enlargement of a flood control project in the Obion-Forked Deer River Basin. They've been joined by conservation organizations and the state Game and Fish Commission. The judge extended an injunction based on the project's detrimental impact and cost as well as the inadequacy of the environmental impact statement.

A national forest research conference held recently in Washington ranked priorities for research—and wildlife came out near the bottom. Specifically, "fish and wildlife habitat" was ranked sixteenth out of nineteen subject areas.

Is this the shape of things to come? Volunteers in Maine are checking water quality for the state's Department of Environmental Protection, which has too few people and too little money to handle the job by itself. The volunteers provide part of all of their own equipment. Self-help is great, but has its drawbacks, such as lack of uniformity in testing and insufficient training to do some tests. So while other states with increasingly limited natural resource budgets may follow Maine's lead, there's a limit to this approach.

What was once thought to be a progressive step for greater efficiency is now perceived to be just the opposite in many states. Pennsylvania is the only state with separate sport fish and game departments; the rest are about equally split between those with combined fish and game and those with an all-inclusive natural resources agency. New York is one of the latter. But sportsmen there are backing legislative attempts to recreate a separate fish and wildlife commission. They've found—as have other states—that in a combined agency, fish and wildlife usually end up at the bottom of the pile when it comes to money, manpower, equipment and prestige.

Canada's continuing search for a more humane animal trap brought in 200 ideas from inventors in 1977. Of these, 22 are considered to have potential and are being tested. Unfortunately, many are "instant-killing" traps, and while this may be more humane, it allows for no second chance for a stray pet or other non-target animal which may be caught.

After many years of study and effort, the federal extension service has been reorganized to give wildlife a more prominent position. The Agriculture Department's Extension Service has traditionally served commercial agricultural interests, almost to the exclusion of other resources. The new agency, the Science and Education Administration, combines several other agencies but includes a separate natural resources staff. This means that the landowner will be able to get more help and advice on managing his land—farm or backyard—for wildlife as well as for crops or lawns.

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COVER PHOTO BY JOE OSMAN

Seeing a SPORT button is probably the first contact you had with the SPORT program. Pinned to a plaid wool shirt, a tweed suit coat, a tan uniform shirt, maybe a shooting cap or even a purse, it shouts in fluorescent orange that sportsmen care. They're telling the world—and reminding each other—that the future of sport hunting depends in large part on the image that each hunter projects. For more on the program, read the article beginning on page 2.

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“It Works. For You.”

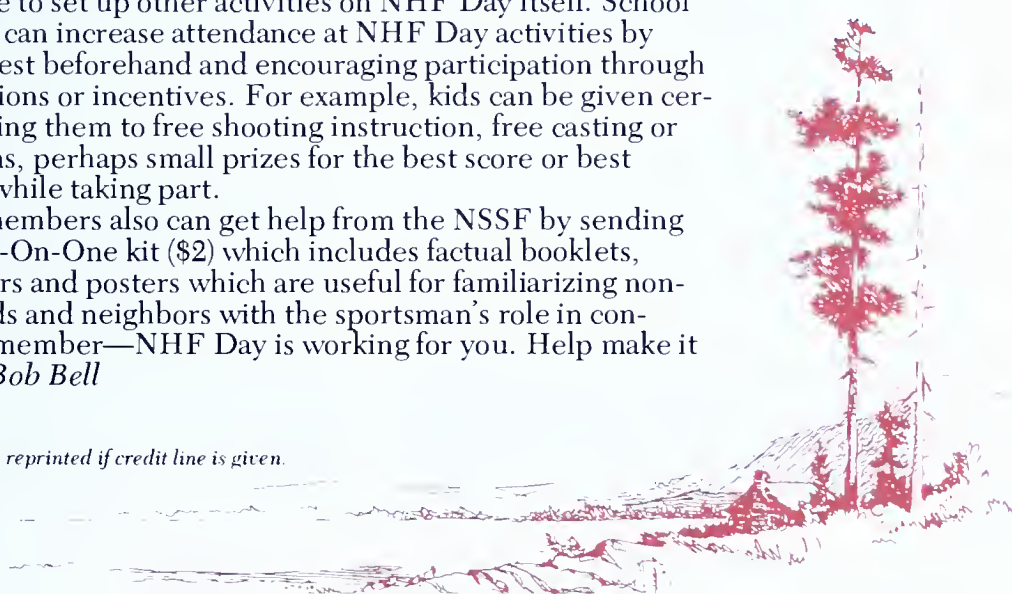
THOSE FOUR WORDS are the theme for this year's National Hunting and Fishing Day®. At the same time, they explain why this day has become so successful. September 23 is the date to remember this year. It will be the seventh annual celebration of NHF Day, and sportsmen from Maine to California will be turning out in droves to make it the most impressive yet.

If you are a member of a hunting or fishing club, skeet or trap club, conservation group, or even if you are a hunter or fisherman who does not belong to any organized club, there are many things you can do to promote NHF Day. It's only fair that we should do so. The goals of NHF Day—to improve the future of our sports and to inform all Americans of our role as sportsmen in modern wildlife conservation—are vital to all of us. The celebration of this day shows non-outdoor oriented persons what the 55 million hunters and fishermen in this country do. We owe NHF Day our support.

NHF Day programs at schools, clubs, shopping centers and elsewhere, and the newspaper, radio and television publicity that results, make millions of new friends for sportsmen each year. Consider an individual example which is typical of countless others: At a shopping center in Nebraska, where local hunters have set up outdoor demonstrations to acquaint the general public with their efforts to improve the environment, a young lady on her way from the hairdresser to the rugstore passes an exhibit which tells how sportsmen have paid over \$5 billion for conservation in the last 50 years. And a little farther on, another one showing how local sportsmen led a successful campaign to clean up a scenic river so that fish might flourish there again. As a result, this one shopper feels a little friendlier toward hunters and fishermen than she did before. Because she now knows something that she didn't know before. That's what NHF Day is all about: helping others understand what we're doing and how it benefits everyone. It works.

Another important approach is to present programs in the schools. Providing youngsters with factual information on the sportsman's role in conservation deserves top priority. An excellent three-part filmstrip series, “Man & Wildlife,” narrated by TV star Robert Fuller, is available at reasonable cost from the National Shooting Sports Foundation, 1075 Post Road, Riverside, Conn. 06878. This is a great way to reach large groups of youngsters in a short period of time; in addition, once school programs are presented during the week, it leaves club organizers free to set up other activities on NHF Day itself. School programs also can increase attendance at NHF Day activities by building interest beforehand and encouraging participation through special invitations or incentives. For example, kids can be given certificates entitling them to free shooting instruction, free casting or archery lessons, perhaps small prizes for the best score or best performance while taking part.

Non-club members also can get help from the NSSF by sending for a new One-On-One kit (\$2) which includes factual booklets, folders, stickers and posters which are useful for familiarizing non-hunting friends and neighbors with the sportsman's role in conservation. Remember—NHF Day is working for you. Help make it successful.—*Bob Bell*





WITH A LITTLE HELP FROM DAD, youngster admires mounted deer and turkey in life-size replica of a SPORT poster displayed at major exhibits.

By Toni Williams

GAME NEWS Staff Writer

REMEMBER being told to “police the area” when you were in the military service? You had to go around picking up trash and generally straightening and cleaning things up.

That phrase, “Sportsmen Policing Our Ranks Together,” calls up not only the law-enforcement meaning of “policing” but, even more, the cleansing aspect. Cleaning up the ranks—getting rid of law-breaking trash, straightening up and polishing our ethics—is what SPORT is all about.

By now everyone who reads the magazine must be aware of the SPORT program, must surely have seen the

cing Our Ranks Together

bright orange buttons flashing from pockets and lapels across the state. So we don't need to introduce you to it. But this is the second anniversary of the program, and we thought you might be interested in knowing how it developed and how it fares today.

It's hard to say where a program actually begins. You might say SPORT started in June, 1976, when the program formally became known as SPORT. But the ideas on which it's based had been developing for a long time.

The idea of hunter responsibility and sportsmanship is not unique to this generation, but it's become perhaps more prominent than in the past because of the increase in numbers of hunters and the increasing frequency of attacks from opposing groups. There's little chance of tracking down the basic ideas behind the SPORT program—they're as old as the sport of hunting.

Executive Director Glenn Bowers at several meetings of the Pennsylvania Federation of Sportsmen's Clubs stressed his belief that some form of self-policing by hunters was urgently needed.

At their 1976 spring convention, the Pennsylvania Federation of Sportsmen's Clubs passed a resolution calling for an active statewide campaign to promote sportsmanship. The main motivation for this resolution was listed as the decrease of game due to poaching. But the Game Commission, which had been asked to assist in developing such a program, foresaw more general application.

In June, 1976, the Game Commissioners approved the basic outlines of the SPORT program, though it wasn't listed under that name yet. The next day, Executive Director Glenn Bowers sent around a memo with his tentative ideas for a program called

SPORT, ideas he'd developed with suggestions from the rest of the staff. In fact, before the Commission meeting, he'd been seen wandering around the Harrisburg office collaring people for their reactions and suggestions. Once the program was approved, he began actively soliciting more detailed ideas.

Back in March, 1975, Information & Education Chief Stan Forbes had come up with a list of suggested activities at the federation, club and individual levels. All were designed to enhance the image of hunters both through internal cleanup and external public relations. These were expanded in various meetings, and presented to then-president of the Federation, Dave DeHaven, in July, 1976.

There was little feedback. So the Game Commission ran with the ball themselves. Perhaps the program was too comprehensive and people were just awed by it. There were no gimmicks, just a lot of suggestions for hard work. But the need was still there, and the Game Commission staff continued to think about a salable, attractive program to promote hunter responsibility. The SPORT concept seemed to fit the need.

Positive Approach

Later that month, the Conservation Information Assistants from the Commissions' six field divisions met with the Harrisburg I&E staff to, among other things, thrash out some ideas for the fledgeling program. The keyword was *positive*: "Do this" rather than "Don't do that." SPORT still emphasizes this positive approach, which may be one reason for its success.

With the formal announcement of SPORT in a news release dated October 24, 1976, and in the November issue of the GAME NEWS, the program was well launched.

Now our program had a name and a slogan. The first item to appear was the orange button with SPORT in bold black letters of decreasing size. What we really needed was a logo—an easily recognized, attractive symbol. We turned the task of designing one over to Nick Rosato, an artist who works often for the Commission; you probably know him best through his little cartoons which dress up the Field Notes. He came up with several ideas, one of which, after a lot of discussion and “taste-testing,” we chose. It was the running deer whose body is made up of the letters SPORT. Rosato’s fertile imagination has since produced other artwork which we’ve used on SPORT placemats, posters, and brochures.

Rosato’s imagination wasn’t the only fertile one. During a late-night session at the July workshop, the CIA’s developed an alternative program which Fred Servey (Northwest Division) presented in formal session the next day. Its catchy title was TROPS. Its logo bore a dismaying resemblance to the Tasmanian devil. But let’s let Fred tell it in his own way:

The TROPS are Coming!

Genetically, no one can identify it. We do know that the ferocity of TROPS represents the feeling of millions of people who have “had it” with those who show a lack of concern over the treatment of our environment.

If you are one who pledges himself to uphold all of our environmental laws, join TROPS.

Every conservationist should look in a mirror and evaluate his or her own image. When you do this, you will note that the word TROPS now spells SPORT—Sportsmen Protecting Our Resources Together.

TROPS are after:

Game Law violators
Litterbugs
Poor sports

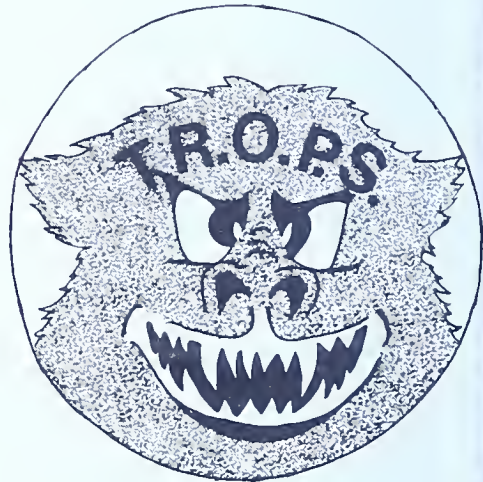
TROPS will get you if you don’t watch out!

(Smokey the Bear is a TROPS; so is Snoopy.)

While the TROPS program did get an enthusiastic (though not altogether serious) reception at that meeting, The Powers That Be felt it was a bit undignified. So it remains a sort of underground movement which surfaces sporadically, usually under the auspices of Mr. Servey.

From the time of the first orange button, Hunter Education Coordinator John Behel has been fruitful with ideas for support materials. Shortly after the button, he came up with a bumper sticker in fluorescent orange and black (Black, because the orange dye suitable for use on vinyl stickers is unstable in sunlight; with a black background, even after the orange fades the message is still readable.)

Such minor problems, of which most people are unaware, make the development



of any support materials is far more difficult and time-consuming task than you might imagine. John Behel and Ted Godshall have suffered through the birth pangs of most of our SPORT buttons, bumper stickers, pamphlets, placemats, and decals. I think the entire community of sportsmen who benefit from the program owe them a rousing “thank you” for putting up with the numerous headaches blocking the way to a good exciting program with a variety of support materials. Sure, it’s their job, but some jobs are more pleasant than others.

Judging from the Field Notes we’ve

received, many citizens are taking the program seriously. A number of Game Law prosecutions have developed from information which sportsmen have turned in to game protectors and deputies. Not everyone who aids in an investigation identifies the SPORT program as his motivation, but many field men think that the amount of citizen involvement has definitely risen since the inception of SPORT.

One strength of SPORT is that it focuses not on law enforcement by an already overtaxed staff of professionals, but on enforcement by peer pressure. That, in the final sense, is the single most effective element in the success of any kind of regulation. There can never be enough enforcement officers to witness every infraction or to prosecute each one if they did. But the psychological power of the opinions of those around you is tremendous. As the old saying goes, "you can't legislate morality"—but you sure can enforce it by peer pressure. That's how cultural values and attitudes are retained in a society, by and large. Legal enforcement works only if there is social approval of its basis.

SPORT encourages social pressure against "slob hunters and poachers, dealers of landscapes, enemies of landowners, wanton killers, arrogant boors who make their own rules, gunners who alarm the common citizen and offend public decency, etc."

Apparently this appeal to the nobler sentiments intrigues sportsmen and conservation officials in other states. A recent issue of *The Missouri Conservationist* featured a lengthy article on their SPORT program, borrowed directly from Pennsylvania's. Several other states, Canadian provinces, and private organizations (such as Winchester-Western) have adopted the idea or have expressed interest in starting a similar program. John Behel's recent award from The Wildlife Society's Northeast Section was based in part on his active development of SPORT materials and their adoption in the Hunter Education program. Information specialists, law enforcement staffs and conservation leaders across the country have recognized the po-

tential strength of this kind of program.

It was a bit disappointing at first that the impetus had to come from the Game Commission; we had hoped that a few ideas and suggestions to sportsmen's groups would encourage them to run with it on their own. That didn't happen. Perhaps something like this has to be coordinated from a central location. However, the Sportsmen's Federation unanimously approved a resolution of support for the SPORT program. Local sportsmen's groups are beginning to respond more actively, and we hope they'll come up with some good ideas and activities to add to the SPORT program.

SPORT has been the focus of a major exhibit and several of the smaller exhibits designed by the CIA's. For example, Fred Servey—the TROPS man—backed up one exhibit with a black crushed velvet sheet scattered with 137 SPORT buttons. It was a real eyecatcher! CIA Dick Fagan has incorporated SPORT materials into the mobile display unit which travels to shows and exhibits in the Southeast Division. He's framed the posters and some of the other literature, and has enlarged the button and wallet card about ten times for visibility and impact.

Improving Relations

SPORT is doing a lot of good, not only within the ranks of hunters, but also in the relationships of hunters to the Game Commission and to the general public. Fagan has responded to requests for SPORT material from schools and industries, and says it's been very well received by the general public. It's a way of showing "outsiders" that hunters really are serious about ethics and that they truly wish to clean out the undesirable element which has gained them a very poor image among many non-hunting groups. Survey after survey has shown that most people opposed to hunting feel that way because they envision the hunter as a drunken, unshaven, greedy slob. Until we are able to change that image, hunting will continue to be held in low esteem by many persons. We will never change the ideas of rabid anti-hunters whose opinions are based

on a belief that it is immoral to kill any animal for any reason. But they're a small minority of non-hunters, and for the sake of our sport, we have to look closely at the image we're projecting.

Recently I visited Camp LeJeune Marine Corps Base, where my husband is stationed. Posted prominently outside the base were several billboards asking, "Have you earned the right to stay a Marine?" SPORT stands for the same kind of self-scrutiny. "Have you earned the right to call yourself a sportsman?" it asks. "Have your fellow hunters earned that right?"

Wildlife in this country belongs to the people. If a majority of the people decide that hunting is no longer an acceptable use of the wildlife resource—and remember that hunters constitute only about 10 percent of the nation's population—then eventually we will lose that privilege. It's a firmly entrenched tradition and it will be hard to unseat. But already some very shrewd and sophisticated forces are chipping away at portions of that tradition.

SPORT strives to nourish the hunting tradition by encouraging its highest expression.



SPORT is a state of mind, and a pattern of actions. It's not just something material like a bumper sticker or a slogan, though such reminders have their place. They help spread an awareness of the program, remind those who already know about it, start beginning sportsmen on the right track, and advertise to the public that hunters do care about ethics. Hunter Education Coordinator John Behel is surrounded by a variety of the SPORT items produced in the past two years. Since 1976, 4½ million pieces of support material have been created and distributed, at an average cost of about twenty thousand dollars a year—less than a penny and a half per piece.

How It Was Chosen . . .

Duck Stamp 1978

By Sylvia Bashline



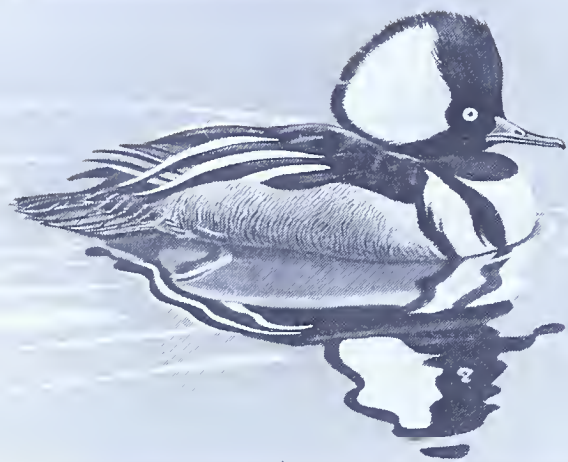
JUDGES REMOVE SELECTIONS for further consideration. Sylvia didn't realize until she saw this picture that she had pulled the eventual winner.

EVERY YEAR SINCE 1934, waterfowl hunters have obligingly trudged to the post office to plunk their money down for their federal "duck stamp." Without it, it is illegal to hunt ducks, geese and swans, the migratory waterfowl. The brainchild of conservationist Ding Darling, the stamp was designed to furnish funds to manage and protect the waterfowl resources of North America. The money has provided refuges for waterfowl to rest, feed and breed. The price of the stamp has risen from \$1 in 1934 to \$5 at present.

Has it been worth it? You bet! Over 1/4 million acres of wetlands have been saved with duck stamp money. In addition, all wildlife benefits from the preservation of wetlands, not just the untold species. Because of this, many

non-hunters willingly pay \$5 each fall for the stamp. Stamp collectors also jumped on the bandwagon early and some of those \$1 duck stamps now bring as much as \$150 from collectors.

Most hunters buy their stamp each hunting season, sign their name across the front as validation and tuck it away in their hunting jacket. The artwork on the stamp is incidental to them. It's a means to an end, the hunting of ducks and geese. I felt the same way until last November when I received a phone call from the Department of the Interior's Bureau of Fish and Wildlife. Bob Hines of the Audio-Visual Services wanted to know if I'd be interested in serving as a judge for the 1978 duck stamp contest. Bob informed me they had a record number of entries, over



THE WINNER—Al Gilbert's merganser.

300. He was also enthusiastic about the quality of the paintings submitted. I was impressed with the number of artists entering because I had once heard from an artist friend that the Bureau doesn't pay a cent to the winner. It is regarded an honor to have your painting chosen to be reproduced on the "duck stamp," officially known as the Migratory Bird Hunting and Conservation Stamp.

I learned that my informant was right; the artist is not paid by the Department of the Interior, but, with careful planning and management, winners have earned up to half a million dollars from the sale of signed and numbered prints. The painting is loaned to the federal government until they reproduce it for the stamp. Then it, and all rights, go back to the artist. Besides the monetary rewards, the creator becomes famous as a duck stamp artist and the price of his future work is enhanced.

But it isn't easy to become the artist of the year. There is a long set of rules and regulations to follow, including size of painting and restrictions on species portrayed. The artist must work with a medium that will be suitable for engraving and keep in mind that the artwork will be reduced to a very small stamp if it is chosen.

Once the paintings arrive at the department, they are placed in manila envelopes. All that shows is the painting (through a window cut in the en-

velope). The name of the species and number assigned to that particular entry is lettered on the envelope.

On the appointed day, in early November, the five judges arrive at the department. In 1977, they were Dr. Michael Berger of the National Wildlife Federation; Lonnie Williamson from the Wildlife Management Institute; Ralph Bitely of Ducks Unlimited; Rudolph Wendelin, former artist for the U.S. Forest Service, and me. I represent the outdoor press.

We were all interested conservationists but none of us were experts on wildfowl anatomy or the problems reproducing a small stamp from a much larger painting. So the Interior Department thoughtfully placed at our disposal the services of two national recognized experts—Glenn Smart, taxidermist and decoy carver (an authority on duck anatomy) and Frazer Sharpless of the Bureau of Engraving (an expert on art reproduction). The men were cautioned to respond only to direct questions from the judges. They were not to give unsolicited opinion. We used them extensively during the judging since few of us were familiar with all species represented. We asked about the length of a bill or the shading of the feathers . . . or perhaps we thought a neck might be too long. What if? Would the grays in this painting show up when reproduced or would they be lost?

Before the judging, we were briefed on the contest. All entries that were automatically disqualified had been removed. Every year a few entries portray extinct species or birds that have been winners during the past five years—both the result of the artists not reading the rules thoroughly. We were cautioned that in the process of reducing art to stamp-size, much detail of the original painting would be lost, so the painting had to stand out to be considered. We were to give equal rating to the following criteria:

1. Total Immediate Impact
2. Composition and Design
3. Does It Have Style?
4. Does It Stand Out From the Rest?
5. Is the First Impression Lasting?

After the bureau personnel we

sure we had no more questions about the judging, we were taken to an auditorium where all the paintings were hung and well lighted. The public is invited to view the judging and several hundred persons were milling around the paintings. We joined them, a bit awed by our responsibility as we got our first look at the artwork.

Bill Garner of the Solicitor's Office, the master of ceremonies, then asked the audience to take their seats. We judges were seated at the front of the auditorium with our backs to the audience, facing the paintings. After we were introduced, Garner cautioned the audience to remain silent during the judging, which required about an hour and a half, not to cheer for favorite paintings, and above all, not to boo a judge if he or she gave an unpopular score. I sighed with relief at that admonition, for our scores were to be given Olympic-style, with cards held over our heads for all to see.

The five judges then left their seats and circulated among the paintings, taking down all they felt deserved further consideration. This took some time as we hated to summarily reject so many good paintings. From over 300 paintings we ended up with a pile of fifty. A screen was then placed in front of the judges' table and as each painting was placed on it, one at a time, Garner called out its number for the scorekeepers. Each judge had to decide what score (on a scale of 1 to 10) to give the piece of artwork, keeping in mind the five rating guidelines. We could confer with our experts and even with each other, but we could not discuss our scores. When each of us had decided on a score, the numbered card was held up. And on it went, down through the pile of paintings until we had scored all fifty. While the scorekeepers tallied, we stood and stretched, feeling the strain of the final selection bearing down.

Each painting received a total score. For instance, if painting number 37 received a 4 from judge A, a 6 from judge B, a 7 from judge C, a 5 from judge D and a 6 from judge E, its score would be 28. Once it was decided what the highest given score was (say, 36), all

paintings that scored an equal number were chosen for further consideration. All paintings with the next four lower scores (in the hypothetical case, 35, 34, 33 and 32) would also be included. In our case, we now had eight paintings for further consideration.

As each one was again placed before us, we conferred with our experts and took plenty of time to make the final cut. This was for all the marbles! The tension was heavy and you could feel the audience breathing. One by one, we voted and then it was over. Bob Hines rushed up from the scoring table, elated with our decision. Never once had he indicated he'd had a favorite, but it was obvious he was pleased with the winner. I last saw him running out of the auditorium with a phone number clutched in his fist. The winner is notified immediately and is warned to consider carefully before signing any contracts with dealers or agents.

War Whoop

I called Bob Hines the next day to find out what Albert Gilbert, the new winner, said when he was told. Bob said he first talked with Mrs. Gilbert and she couldn't believe it. They had thought the contest had been held the previous week and that he had lost since he hadn't heard anything. Gilbert was about to give a slide lecture in New York City. Hines placed a second phone call and finally got Gilbert on the line. "He let out a war whoop," Hines reported, "the likes of which I have never heard." Gilbert will receive a sheet of thirty of "his" stamps in a gold-embossed folder with his name on it as his only compensation from the government.

I slept well that November night convinced that Albert Gilbert's hooded merganser painting was the best choice we could have made. It is a standout rendition. I was struck by its forcefulness. Obviously, the other judges were, too. The reflection of the duck on the water was handled masterfully. Albert Gilbert deserves his honor and I'm proud to have been a part of it. And I'll remember the thrill of being there as I sign my duck stamp for 1978.



The Old Gun Trader And I

By John B. Del Savio

AS MOST GUNS go it really wasn't much to look at. The stock was scratched and very little blueing was left on the receiver. The barrel was practically worn smooth from the passage of thousands upon thousands of rounds. As I said, it wasn't much to look at, but it was very special to me—it was my first 22. And it was a lever action, at that.

Grandma's farm was crawling with myriads of crows and woodchucks. The sky around the barn was blackened by starlings and the few ratty barn pigeons that roosted on the roof from time to time. For me it was a hunter's paradise . . . but I didn't have a gun.

My only real connection with the grown-up world then was an old mountain man who had a trace of Indian blood. He spent most of his time visiting old cronies and trading guns. His name was De Witt Hessler and he was the best shot in our parts, and then some. He drove an old Ford station wagon that looked as battered as he was. He had such a reputation that deer hid low by a barbed wire fence until his vehicle passed before they'd attempt to cross. The back of his old car was always filled with guns he either was trading or had gotten in trade. He would come up to Grandma's and show her a rifle or shotgun, sip some of her "medicine," and pass the time of day.

I heard his car pull into the driveway one afternoon and as usual I ran out to greet him. He was wearing the same old hat and soft, faded shirt. A certain twinkle lit his eye as he lifted his 73-year-old bones from the cab of his Ford wagon. Reaching into the back, he

flipped an old Army blanket aside to reveal several Fox shotguns and a 22 rifle. Carefully he slid the 22 through the window to me—standard procedure—and we walked into the kitchen where Grandma was finishing her afternoon tea.

"Helen," he greeted. "How are you keeping?"

"Just fine, De Witt. What have you got there?"

"Just another 22. Got it from the Beneways."

The Beneways were trappers by trade and old friends of Mr. Hessler.

"I just thought the boy (meaning me) might have need of one now that he's come of age and is all grown up."

Grandma hesitated a second, then took another sip of her tea. I could see that she was buying time.

"I don't know, De Witt . . ."

"Do you want the boy to grow up ignorant about gun safety, or even how to handle a gun properly?"

"Heavens, no," she answered half jokingly. "Why, I wouldn't want that!"

"Well, then . . ."

"How much do you want for it?" she said, reaching for a big blue pocketbook that needed a whole chair to hold it up.

"Nothing, Helen, nothing at all. Let's just say I am passing on a tradition that was once passed on to me."

A Marlin 39 Lever Action

I ran into the kitchen and saw a smile on the old man's weathered face as he sat by the table. I was already petting the rifle—a Marlin Model 39 lever action—and was on the verge of tears when De Witt told me to get my tail



THE CHUCK AND I began playing a game of hide-and-sneak. When he dropped down to feed, I'd crawl closer on my elbows and knees. Mosquitoes swarmed about me in full force, landing on my neck and forehead to feast.

outside and scrounge through the glove compartment of his station wagon and see if I could come up with a few boxes of 22s. I did. They were old Winchester Super-Xs and the boxes were oily and about to fall apart. But it was fodder for my new acquisition.

I was so happy I wanted to give him a hug, but I knew better. Us mountain men don't show our emotions.

The next week was spent learning how to handle the gun safely, how to care for it, and in getting a license. Endless rounds of ammunition were expended on beer cans, which I suspect he personally emptied, and learning how to sight in the gun on paper targets. He taught me that it didn't make much sense to take a standing shot at an animal when you could sit. A human is a pretty shaky creature on two legs. And that lying prone or using a natural rest—a tree limb or rock wall—is even better than sitting. The first shot, I was taught, is the most important. You owed that to the animal you were hunting. Succeeding shots meant nothing to the old trapper. He didn't take much stock in people who

used semi-automatics and thought firepower could make up for honest-to-goodness marksmanship.

Those days were filled with enjoyment, and De Witt Hessler had a willing and eager pupil. I guess he got a lot of enjoyment out of it too, now that I'm older and realize how much fun it is to pass on something you know and have done well.

Once the course was complete to his satisfaction, and he knew I wasn't about to go off and shoot the neighbor's cat, he suggested it was time for the final exam.

And old boar woodchuck was enjoying the fat and easy life of a country gentleman where the edge of the vegetable garden met a large clover field—at Grandma's expense. De Witt had promised her he would settle that old chuck's affairs straight away. Five attempts and as many 22s later, the chuck was still enjoying the life of Riley.

"Now, I've taught you about all I can. The rest you're going to have to learn on your own. I can only tell you my experiences. You can take what you want from it and forget the rest. That old boar woodchuck is no dummy, and he's causing your Grandma a lot of aggravation besides ruining the vegetable garden. I suggest (he always suggested, never told) you take your rifle and see what you can do about it. Mind what I told you about woodchucks and 22s. Shoot for the ear. A shot there will kill him instantly. They're tough customers. If they were the size of a bear, you'd need a 20 millimeter cannon to stop 'em. They're tough. And so am I. Here."

He handed me a single 22 long rifle hollow point.

"That's all you get, one shot."

"But . . ."

"No buts. If you learned anything from me, one shot is all you'll need. If I'm right in my observations, you might be able to bump into him in the late afternoon. It's almost four o'clock now. You'll know him. The late afternoon sun will make his fur look orangey-red. And he's big. If you hit him in the chest or body, he'll make it to his dive hole and die a lingering death. The 22 just

isn't powerful enough for a body shot. Sportsmen, and that's what I'm teaching you to be, kill cleanly and don't try to make their rifle do what it wasn't designed to do. So get as close as you can and place that shot perfectly. Don't squeeze the trigger until you're sure of a clean kill. If you don't, your Grandma here might think I was a bad influence and teacher and take your gun away. Good luck, son, and mind what I taught you!"

I took the cartridge and looked at the old man. I felt proud that he trusted me, but I was anxious because I didn't want to fail him. I had never had a grown person put so much faith in me. I swore I wasn't going to let him down.

The summer sun was still in the sky, but beginning to set that late afternoon. Looking back at the main house from my hilltop position, I could see Grandma sitting by the window at the kitchen table. Occasionally I could see her glance in my direction. I wondered what she was thinking about. When I returned my gaze to the clover field, a dark form took shape. It was him! I froze. Although I was sprawled on my belly I was still shaking enough to start an earthquake. Call it woodchuck fever if you will, but I had a full case of it. The rifle was empty, by design rather than bad luck. I slowly reached into my shirt pocket for the single 22 long rifle. The chuck dropped to all fours and began to nibble at the juicy green clover. Mosquitoes that never bothered to come out in the hot sun were now swarming about my head in full force. I could swear they had four motors. They swarmed over my arm, biting, but I didn't move. They landed on my neck and forehead to feast. Still, I didn't move. I began to sweat and wondered when all this would end. Suddenly, the chuck stood up on his hind legs. I could only see his shoulders and head. He disappeared once again into the deep clover. I dropped the cartridge into the open action and levered it into the chamber, then dropped the hammer to half-cock. Now for the stalk.

He was well within range when he showed himself again—about 50 yards. But I wanted to be sure. So much was riding on my one shot that I wasn't go-

ing to pull the trigger until I was positive I could place the bullet exactly where I wanted to. We, the chuck and I, began playing a game of hide-and-sneak. When he dropped down to feed, I'd crawl closer on my elbows and knees. When he stood up to survey the area, I froze with my face to the ground. For half an hour the game continued. I closed the distance to 20 yards or so before I was satisfied that now was *the* time. The clover was too high to take a shot from the prone position. I would have to take him sitting.

Now or Never

Up popped his head. I could make out his beady eye. I swear he was looking through me when he disappeared into the clover and continued to feed. It was now or never. Swinging into a sitting position, I hooked my elbows over the tops of my knees, cocked the hammer and pointed the rifle in the direction I'd last seen him. The rifle was so heavy I almost tipped forward with all the barrel weight.

His head popped up once again. He looked at me head-on, then turned to one side. I lined my sights and took a fine bead between his eye and ear. *Squeezzzzzz*, I kept telling myself. For what seemed eternity, intensified by the fear that he might move before the 37-grain hollow point reached him, I squeezed. The rifle finally sounded, but I don't think I actually heard it.

The chuck disappeared from view. Had I missed? Did he drop just as I squeezed off? I ejected the shell and raced to the spot where I saw him last. With my heart in my mouth I anxiously scanned the clover. For a few seconds I couldn't see anything. Then I spotted him. He was flat on his back, buck teeth ominously protruding from under his upper lip. I hesitated, staring at him. I wanted to remember him just as he was, and took a mental photograph. He would be as important to me as my first deer and later an African elephant.

I hadn't noticed before, but now off to my left stood the old man, De Witt Hessler. He was smiling and I thought I saw the beginning of a tear in his eye.

I wondered then how I would feel when I was the old man.



THE LANDSCAPE had been whitewashed with a fresh blanket of snow. "Maybe the storm kept the bunnies holed up during the night, Nick," Paul commented, as we loaded the last of his three beagles into the dog boxes on my pickup.

"Yeah. Let's hope there are a few above ground that'll give these hounds something to yell about," I said as I slammed the tailgate shut.

A short drive down the hill, and we swung off the blacktop. Though the truck wheels spun a little, we made our way up the snow- and ice-covered back road that led to the hunting grounds. Paul pointed out a wide spot where we could park. A few minutes later we had pulled shotguns from the cab, filled our pockets with shells, and those three beagles were tugging on their leashes,

helping us up over the snow-covered roadbank.

My hunting companion was Paul Hollobaugh. He's been a hound man for 40 years or more. He's active in beagle circles as a field trial judge, and he always has a backyard full of dogs for hunting. Over the years he's had seven rabbit dog field champions, including his latest, Huling's Run Linesman. Paul doesn't stop at cottontail chasers, though. Anytime you check out the dogs behind his house, you'll find a few foxhounds and a few coonhounds in addition to his field trial and hunting rabbit dogs.

He had selected three hounds for our winter hunt. Barb was the old-timer of nine years, a hound Paul depended heavily upon for rabbit chase fun during the gun season. Fred was the



FUN WITH RABBIT HOUNDS

By Nick Sisley

second dependable tracker. He had six years' experience, although he'd been blind for the last two. Still, he tugged at the lead with as much enthusiasm as the other dogs. He was anxious for a nose full of scent. Jim, a two-year-old, was coming on fine.

"Let's try working along this little creek, Nick. There's a good chance some rabbits will be in the cuts under the banks. Barb knows enough to get up in those little pockets and make a search." Paul chambered a round in his Ithaca and worked two backup loads into the magazine.

We spread out on either side of the little brook, Paul encouraging the hounds to get down in the creek. It wasn't long until Barb started routing along the bank edges where the earth had been eroded away during previous

high water. I could see bunny tracks on the snow-covered ice that partly hid the little brook. Occasionally those tracks worked up out of the stream bed, right into the hiding spots offered along the cut banks.

Sure enough, Barb started showing excitement when she stuck her nose into one of those little notches in the bank. She took a good whiff, pulled her head out, raised it high, and made her announcement, "Yeawlll!"

With that, the bunny catapulted from his hide. He took two jumps down the icy creek bed, then leaped up on Paul's side of the bank. Snow puffing each time he came down, the rabbit made an easy target as he darted down a path. Paul brought his old pump gun up, but he never slapped the trigger. I noticed the wrinkle of a smile at one



PAUL HOLLOBAUGH lets his beagles worry cottontail he bagged after a chase that lasted for over an hour—a November hunt that will last for years in his memory.

corner of his mouth as he lowered the gun when the rabbit disappeared.

Paul wanted that rabbit alive for the dogs. He held off shooting the critter on the jump so the dogs could have a chance to run. And that they did. It was tough going in the deep snow, especially for dogs with bellies built so close to the ground. But they stuck to the task, and the crab apples, gray dogwood and viburnums rang with the chorus of their voices.

Finally the rabbit came full circle. Paul was standing in the right place this time. One shot meant the chase was over. Barb, the retriever of the trio, brought the cottontailed quarry right to her master. That was the morning I learned how valuable a hound can be if it knows that undercut creek banks are favorite hiding places for rabbits in cold weather. During the morning, we encountered more success along the creek edges, and as Paul and I listened to the music of the chase, I learned more about winter hunting with rabbit hounds.

These days it's the rare beagle that

can take a track in snow. Most of today's hounds simply never get a chance to run under these conditions. Maybe the emerging importance of the NFL playoffs and the Super Bowl has something to do with it, but rabbit hunters are few and far between during our state's after-Christmas season. That's when the snow is usually on, and the scenting conditions more difficult.

Paul thinks inability to run in the snow largely stems from lack of experience. He feels that a dog must learn to do this. Maybe the scent is different. While judging field trials and watching winter dogs work in other situations, Paul claims that once a hound runs one rabbit in the snow, he'll get better on the second. A so-so snow dog in the first series of a field trial might be much improved if he's called back for second and third series. The point is, if your hound won't run in snow, the fault is probably not in the dog. It's in the dog's owner for not giving him the opportunity to learn.

But November is the golden month for rabbit hunting in the Keystone State. It's unusual for us to have much snow at that time of the year. Instead, crisp days, either cloudy or bright, are the rule. Some falls are dry, making scenting conditions poor, but rainfall usually arrives during the month, improving scenting conditions considerably. For the rabbit dog man, November is the month he dreams about all year long.

Six Words

Reading from my notes dated November 1, 1977, I find a simple first sentence entry. "First rabbit ran over an hour." I don't have to read further. Immediately those six words bring the whole day back to memory. With a great start like that, the dogs working so hard for so long, it had to be a memorable morning.

We had started our hunt through thick second-growth. Not one to avoid briars and entangling vegetation, Paul thinks it's important to dive into the cover. Doing so helps flush game and, perhaps even more important, it encourages young dogs into the toughest tangles. When they find scent and a

ack in such a place, they learn that to e successful they must continually earch out such havens.

Paul's plowing paid off. Near the end f the thicket, after we had been forcing ur way through horribly thick stuff for lmost 45 minutes, the old hound made er announcement. The two younger ogs hurried in her direction. The next ew minutes produced sporadic barks. he three were picking up a sniff here nd there. Diligently they worked at e invisible but smelly puzzle, and hen all three opened together, we ew they had him on the run.

The chase worked up over a dry spoil ank, the leftovers of a 20-year-old ripmine operation, then through a and of spindly pines planted after the al removal had been completed. I aced ahead to stand at an opening ong a faint tram road, and as the dogs orked closer, my hands tensed around e old Parker. But I was too late. The ogs worked across the opening. The bbit had crossed before I had reached e stand.

I marveled at the hounds' noses. ow could they smell anything on the ry shale? They picked their way across e old road bed, climbed the bank on e other side and, though there wasn't scrap of vegetation, tongued the hole way. At the top of the next bank ey entered a long expanse of low ines, the type that's almost impossible o shoot in because there are no open- ings.

Instead of circling, the rabbit stayed a those pines, weaving, doubling on is own track, running ten feet and quatting, then ten more. It was ob- ious this rabbit had been chased be- ore. He seemed to be enjoying the roceedings.

I worked up to the right, staying on e tram because, until the rabbit came ut of those pines, I didn't have a nance for a shot. Then I got impatient nd entered the pines, curious for a mpse of the dog work, hoping to see n opening or two. No luck on the lat- r, so I returned to the tram. I hadn't en Paul for 20 minutes.

Finally the dogs started working out oward my stand. Would you believe at blasted rabbit had run that road for

almost 100 feet? And he had done so while I had taken my short jaunt into the pines, of course. Another lesson learned!

The scenting was almost impossible, but those three dogs just kept plugging. I've never seen dogs run in drier condi- tions, and with little or no surrounding vegetation, to boot.

The quarry cut down over the bank, and the dogs finally encountered a loss. Undaunted, Paul found the spot where they last barked and worked down over the bank himself, encouraging the dogs to join him. It took several minutes, but finally the rabbit leaped from the only pile of brush in the vicinity, the dogs bellowing and baying in full cry again.

65 Minutes

I worked ahead of them, but high above on a spoil pile. A blur of brown appeared in front, and I slammed a load of 7½s in his direction. It didn't con- nect. After a brief loss where I had shot, the dogs picked up the trail again. This time Paul was in the right position on the old tram, and one shot put an end to the chase. When Barb retrieved our prize, I checked my watch. They had been running 65 minutes under extra dry conditions, over stripmined country where vegetation that holds scent was sparse. I'll remember that rabbit and that chase for as long as I live.

Later in November I was hunting a good cutover with another hound. This time scenting conditions should have been ideal. Each step through the cover was like brushing against a wet mop. But the hound was inex- perienced. Though we had one chase, that beagle could never really get the track unraveled.

On November 25 I was with Paul again. We hadn't been hunting long when Barb opened. After a few barks the other dogs took a sniff, but didn't join in. Was it a deer? Paul didn't take a chance. He scolded Barb and took all three dogs away from that scent. He seemed to know instinctively that something was wrong. Maybe Paul's long experience with hounds paid off and prevented us from a ruined hunt- ing day, for that can surely happen

when a pack of beagles gets on the hot scent of a whitetail in November. Later, when I asked Paul about it, he said her bark didn't sound right. I hadn't noticed any difference, but his keen ears had.

We were working our way to a small slashing that covered only about two acres. We hadn't hunted the spot for a couple of years, but we both remembered the sport we had enjoyed at this hotspot the first year after the thick vegetation grew back. It was so entangling even the beagles had difficulty penetrating it. We didn't have a prayer of getting through. But, no matter. Paul's dogs knew bunnies love such places. They were content to jump into the tangle while we waited around the perimeter, nervous thumbs fidgeting safeties.

Good for One

But now the slashing was older. There were still piles of decaying slash around, but the brush was higher. The little woods was starting to come back. Rabbit pellets were seen only occasionally. Obviously this wasn't the game-rich patch we had known only a few years earlier. But it was good for one rabbit.

The dogs jumped the scent at one corner. They took the track for 40 yards at a fast pace, but then they had to settle down and go to work. The bunny had run across a stretch of open country, one with sparse grass trying to grow out of shale. This, too, had been stripmine territory, but more recently. The contours had at least been leveled.

Paul was walking 20 yards behind the dogs, but I was working above and ahead of them, hoping to get a glimpse of the cottontail. The cover was so open that I could see well in front. A few sparse briars loomed ahead, hardly enough cover to hide a squatting bunny, but there wasn't another patch of decent vegetation within 100 yards. The dogs worked up to those two or three briar stems and came to a loss.

I held my ground, wondering which direction the chase would take, while Paul walked up to the hounds. He was also trying to figure out what had happened. After Paul had been standing

right next to those briars for at least 30 seconds, the bunny erupted from almost beneath his feet, stretching away in long leaps. He ran right for me, so Paul couldn't shoot. I had to wait until he darted around on my right side before cutting loose with the right barrel. It didn't connect. With the shot the rabbit shifted into high gear. Remember, there was a total lack of vegetation. How would I ever live down missing the rabbit in such open country? Luckily the left barrel connected, and I didn't have to grope for excuses.

How did that rabbit manage to hide from the hounds and from Paul when cover was so lacking? Obviously, they are well camouflaged no matter where they're sitting.

Over the years Paul and I have had a number of successful hunts. I've related experiences that center around only a few of our kills. We've had lots of others, but we've also had our share of misses and times when the cottontails have foiled us. When we're hunting, I'm usually pumping Paul for training tips to pass on to hound lovers who have less experience than Hollobaugh. Some of his tips have already been related as a part of these hunting experiences, but he seems to come up with more good ideas each time we get together.

Paul likes to start pups when they're about six or seven months old. Like many beagle lovers, Paul belongs to a beagle club. The club obtains a permit from the Game Commission to trap rabbits around in-town dwellings, then the bunnies are released on the club training grounds. If Paul has a young dog he wants to get started, he'll take advantage of such a trapped rabbit, letting the dog smell the box the critter is in, then, after tying the dog, he'll turn the rabbit loose right in front of the youngster. This is often the catalyst that gets a young beagle started.

Paul likes to run a young dog alone for awhile. Before the pup gets a brace mate, Paul wants to see that he can run on his own, and see what type of dog he's going to be—fast, medium-paced, close or wide on the checks, etc. Once he sees how a youngster runs a

rabbit, he'll permit him to run with another dog, but he selects that first brace mate carefully. He wants one that will complement the youngster, help him eliminate potential faults, keep him on the right course.

Not every hound makes the grade. Readers looking for a top rabbit hunting companion should remember that. Of the 60 or more hounds that Paul has trained on rabbits over the years, seven have made field champions. Some of the others have been good competitors and/or acceptable gun dogs, but a number of these hounds weren't worth feeding. A hound man who is unwilling to cull the unsuited is destined to be saddled with plenty of useless canines.

Should Be Honest

Paul's a great believer in watching a dog's mouth—figuratively, that is. He wants a dog that opens as soon as he whiffs a trail. If he sneaks off, trying to get ahead of his companions, that's a fault. If he barks for the sake of barking when he's not really on the trail) that's even worse. The top hound must be quick to announce what he finds, he should speak often, but he should be honest, barking only when he's surely on the trail.

Some hounds should be run often. They need the work. This is the norm. However, some perform better if they're not put down as often. Some learn bad habits too quickly, but if they run less, these problems don't surface. It takes experience to recognize how often a hound should be put down.

When Paul sees a deer, he doesn't shy away. Instead he works his dogs into the area, just to see if they'll take the trail. If they do, he makes an immediate correction. Maybe 20 minutes later he'll work back into the same area, to see if the dogs are still interested in the scent of off game. The way to deer-proof hounds is to show them it's wrong, rather than by trying to avoid deer scent.

During training sessions, or while



THE END of a hunt.

hunting, be aware of which direction the rabbit has run. Keep your hound running in the right direction. A good young hound can get started the wrong way. Once he has backtracked a couple of rabbits for any length of time, you can expect future problems. But by closely watching the cover you'll often glimpse a rabbit scurrying away, and you'll know how the trail runs.

When developing a pack of rabbit dogs for hunting, it's important to seek hounds that help and complement one another. Many rabbit enthusiasts keep four or five hounds to enjoy their November sport to the utmost. Developing a pack that can really do the job is satisfying, and lots of fun will be encountered every crisp morning you turn them loose.



The Value of Live Sightings

By Ken James

“THERE GO my people . . . if I would be their leader I must follow them.” That statement was attributed to Mahatma Gandhi, a respected Hindu leader of another era. I read it at an impressionable age when profound utterances retained some measure of credibility for a longer period of time than they do today. What all that has to do with trapping mink is simply this: if you would be a good mink trapper—let’s say a *leader* among mink trappers—you should “follow” your prey to learn as much as possible of his ways.

Indians were reputedly good trackers—good *followers*. They either learned to read sign or went cold from lack of fur, or hungry from lack of meat, or both. Some of the best hunters I ever knew were not necessarily the best shots. Their success and consequently their reputations as great hunters—for deer, grouse, whatever—resulted from their intimate knowledge of the habits and habitat of their quarry. No less can be expected by the trapper if he hopes to be consistently successful.

However, unlike much hunted game which can be flushed from hiding, the furbearers of the trapper are largely nocturnal, doing most of their hunting and feeding at times other than in broad daylight. True, we’ve all sighted an occasional muskrat in daylight hours and a beaver is not an uncommon sight in early morning or late evening. But for the most part, furbearers are a relative rarity during daylight hours when compared to most game.

The mink is the most notable exception to that generalization. Not only have I observed them in broad daylight on many occasions, but deer hunters often sight mink, especially while

standing near a stone fencerow to watch the edge of a field.

“Mink run almost as much during the day as they do at night . . .” wrote one famous Adirondack trapper who obviously knew his business. He wrote extensively of his successes and if you had trapped a few mink yourself you knew from experience that the man was on track and knew what he was talking about. And I would venture to say that he earned perhaps as much from his writings and the selling of his own homemade lures and baits as he did from his sale of furs. But, let’s let him finish his sentence. “. . . so it’s not a good idea to check your traps too early. . . .” That is not an exact quote but the gist of it is there. His belief was that some mink, still running around after a meal or a fight, might be thus spooked from the trapline.

I’ll make one quick disagreement with the latter part of that statement and then get on with the business. His experiences were from another day, another area. His trapping was done in the relative seclusion of the Adirondacks and it is doubtful that trap and fur thieves were as prevalent as they might be in a heavily populated state such as ours.

At Daybreak

Furthermore, I have arrived on the scene of many a catch that certainly would have escaped had I been an hour or so later—and I was tending my line at *daybreak*. In fact, the largest mink I ever caught had been able to overcome the weight of the drowning rock, twist the wire until it broke at the drag and make his way onto dry land a good four yards from what should have been a relatively sure drowning set for a normal-size mink. Through sheer luck

the long wire I had attached to the chain became entangled in some brush. (Since then I have never underestimated the value of extra long wires or chains on drags!) The big male had apparently doubled back to attack whatever it was that had him restrained and succeeded only in wrapping the bare-ended wire so securely around the brush that he was well-anchored by the time I got there. But that's got to be the exception—check traps too late and you'll lose many an animal.

How Learn the Ways?

So you've never seen a mink in broad daylight. How then can a mink trapper learn the ways of his quarry? How can you get to know much about the habits and habitat of something you seldom if ever see? In many cases, tracking might be the only way. I hate to say "only" for fear of making it sound like that is second best when in reality it's probably *the best way* to learn the mink's habits. I have been extremely fortunate to have sighted a good many mink going about their business in their natural habitat—but I've tracked quite a few more than I've watched. And, thrilling as the sight of a live mink might be, it is short and fleeting.

Although I had been observing mink during daylight hours, I never thought this was a regular routine of theirs until I read the aforementioned author's book. Then, checking my own sightings with those of deer hunters, rural mail carriers, township road crews and other friends who traveled back roads during daylight, I finally realized what could be learned from comparing these actual observances with what the tracks had already been telling me. Hit and miss trapping methods would no longer be necessary. However, despite the fact that mink could be depended upon to show themselves during daylight, actual sightings were both thrilling and confusing—the latter when trying to determine a good set. More on that later.

The same author/trapper I mentioned earlier made a number of statements which probably confused many trappers who were *trappers only* and not trappers/observers. One comment

was that good mink trappers caught more mink on land than in water. Although this might surprise many, if you become one of those "good" mink trappers he speaks of you'll be trapping mink long after wet sets have frozen over, something which happens early along Pennsylvania's northern tier.

Consider the sightings along stone fencerows by deer hunters mentioned earlier. Such sightings suggest that mink sometimes travel great distances from water, but you can be assured that those fencerows led to a pond or creek not far away. Out of your sight, perhaps, but not out of the range of a mink. Consider for a minute what the mink is doing here: the cracks and crevices of an old stone wall are nearly perfect habitat for so many rodents as to make it a virtual mink supermarket!

I have never heard anyone claim he was going into the woods to "watch" for mink. Unquestionably, nature photographers have done so—but that's probably it. Nevertheless, you can use much of your hunting time for both tracking mink and setting yourself upon an observation post that could net you the sight of a wild mink. For now, let's consider *sighting*; *tracking* is an entirely different story.

One year, "way back in" on the shores of an old beaver dam, I was awarded with a command performance by the largest mink I've ever seen. I had entered the woods about 7 a.m. A turkey was my goal. Not long after I found a comfortable vantage point, a pair of ducks settled down halfway across the dam, at about three times the range of my scattergun. I had my stamp and there was no seasonal conflict at the time . . . what a day this promised to be!

"Patience," I half mumbled, "you might have a pair of ducks before you get that turkey." Talk about confidence. To make a very long story short: the two ducks would have no part of my side of the pond, nor would many others which were to circle and land all day long. The turkeys? They, too, had other plans, in other places.

Much time passed—remember, I said it was comfortable. It was a beautiful day to begin with and there was

nothing to hurry about, so I didn't.

Suddenly I was aware of a raucous chatter getting louder and obviously louder by the second. In little more than an instant from the first hint of their coming, the treetops were swaying from the weight of thousands of grackles. Their number and chatter were unlike anything I've ever seen or heard, before or since.

My woodland reverie had been interrupted. But it *was* their place, not mine. After the initial distraction I stopped craning my neck to watch them. When you've seen one grackle you've seen them all. My gaze returned to the pond's sloping perimeter, waiting for that turkey that never came.

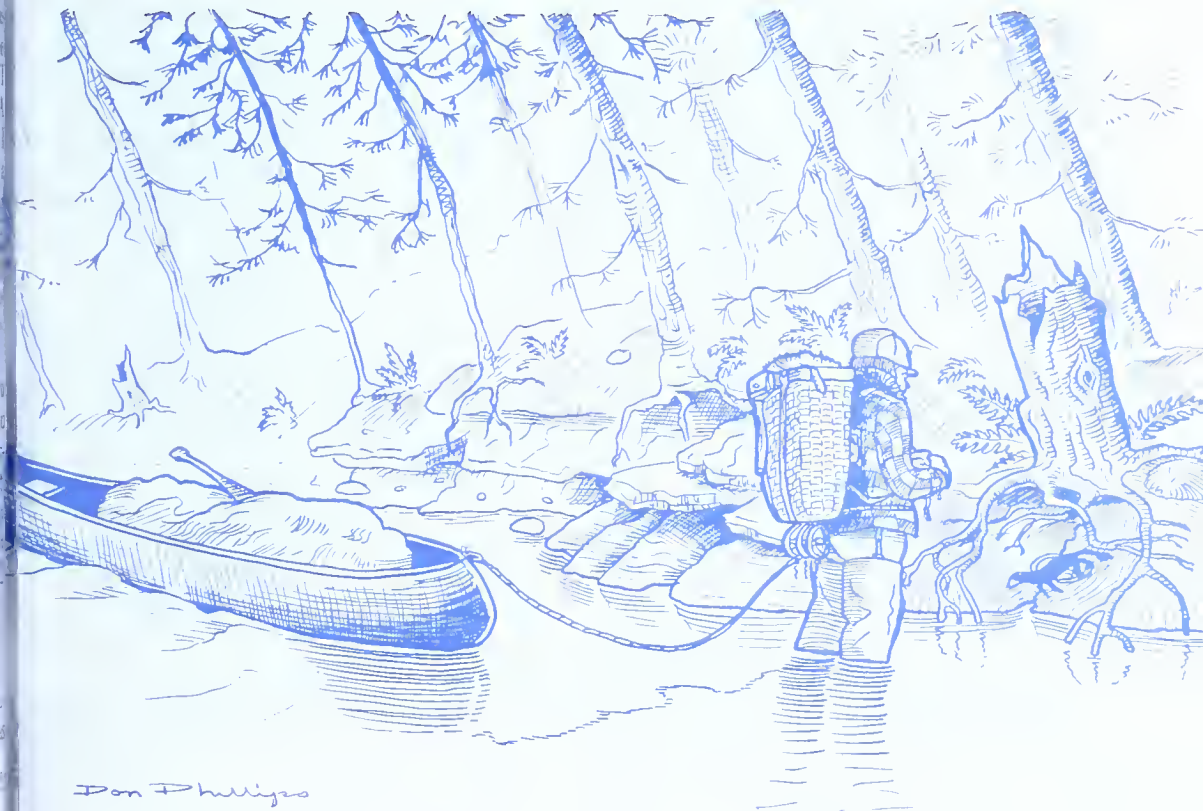
Then I saw him. Just like the grackles (out with no sound whatever) he came from nowhere. Had he been huddled in some nearby hideaway until the noise of the birds aroused him? I'll never know. He came loping along near the edge of the pond, no more than three or four yards from my feet. What a magnificent creature he was! Shamefully, though, I have to admit I could almost see dollar signs spaced along every inch of his glimmering length.

What a price he would bring, come mink season.

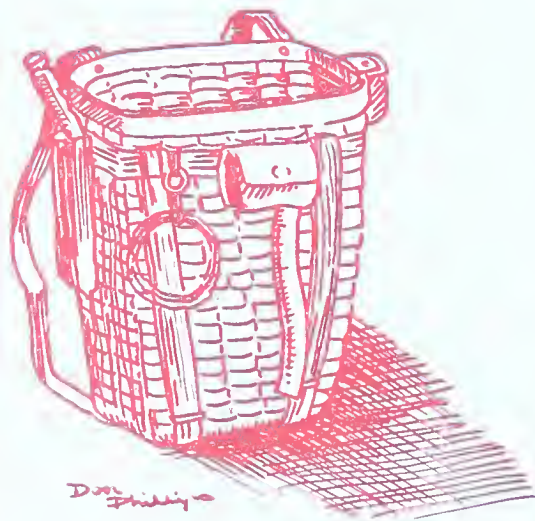
As he passed directly before me I was given about as close a look at a wild mink as I ever expect to have, the nearness probably exaggerated because of his tremendous size. Now, I don't know what I expected a mink of this size to walk like, or lope like, or whichever. But this fat cat was about as ungainly as any creature I've ever seen on land. I've watched smaller specimens whose speed gave little opportunity to sit in judgement of their grace, but this boy was big, he was fat, and he was awkward. As an afterthought, once he'd passed from view, I had to admit that he was indeed eating well.

Entranced though I was by his sudden appearance, I nevertheless had the presence of mind to make mental notes of his path and his actions, and long after he disappeared I tried to analyze his meanderings. Where could good sets have been made? He never entered the water. But in certain shoreline areas his path could have been constricted, narrowed down into a perfect blind set. Maybe. Could he have been lured to some sort of cubby

INK ARE USUALLY found in proximity to water, yet if you study their activities it's possible to trap them long after wet sets have frozen over.



set? I've never been able to convince myself that mink are very dependent on their sense of smell. I have caught mink on occasion in fish-baited sets, but I believe the placement of the set—in a spot I felt certain a mink would naturally search—was more important than any bait or scent might have been.



The actions of this mink and, for that matter, every other one I've sighted, lead me to believe they are either nearsighted or do not associate the sight of humans or their paraphernalia with danger or as any sort of threat to their well-being. They appear completely oblivious of your presence. Not one has ever stopped short near me, like a deer sensing or scenting something foreign. And, unlike a fox who appears to believe there's a mouse under every leaf, or a swimming muskrat that seems to be at least on course to some predetermined feeding grounds, this mink and many others I've sighted appeared to be going nowhere in particular, except thataway.

Two things I considered: the birds, in this case, could have had a pattern-disturbing effect on him; or he could have been on an established route and knew that the area had nothing to offer him. Mink season was only a week away, and I vowed to return and create a set that would put his pelt on a board. But fate would not have it so. By opening day nearly two feet of snow had fallen; a crust had formed, one of those crusts just too thick to be shoved ahead

of the shinbones and too thin to support your weight. The thought of trudging through two miles or more of that stuff got me to wondering whether he was really as big as I first thought he was. I never went back.

The apparently aimless meandering of this mink was to be repeated by others I saw under totally different circumstances and in other locales. One spring day I was standing along a small Sullivan County trout stream waiting for an overdue companion. Again, out of nowhere came a nice male, hopping from rock to rock, a good bit more agile and less awkward than the fatso just described. But, again, how on earth (on water) would you make a set for this one? No farther away from me than the other, he too went on his aimless way, either not seeing me standing there in plain view or not caring.

So what good are sightings? Much in life is a matter of being in the right place at the right time. One Sunday afternoon we had just finished the annual family get-together along Mussers Run in Columbia County. Someone suggested a swim in the creek behind the cottage. Now, you don't swim very well in a foot of water. A deeper pool was dictated and kids and adults together began noisily uprooting rocks and tossing them into a new "dam." We stuck with it until we had raised the water nearly a foot, and "swam" (in the loosest sense of the word). In only a short time the thrill wore off for the kids. They left, we lingered, splashing about now and then—anything to keep cool.

A Snake?

In a moment of stillness, I thought I detected movement among the rock outcroppings on the opposite shore. Since it disappeared almost as soon as seen, I assumed it was a snake—fat, maybe, but a snake. I continued to watch blurred flashes of motion as the creature moved about in the outcropping over which the roots of a streamside hemlock had adorned themselves until a small mink finally broke into view.

How different were the actions of this little mink, most likely a female,

JUST ONCE IN YOUR LIFE WHY DON'T YOU GIVE A GAME NEWS SUBSCRIPTION TO A FRIEND?

from those of old fatso. She scurried in and out of each crack and crevice, and when her nose poked into a hole too small to enter she'd withdraw only to disappear immediately into a more accommodating hole, constantly—almost frantically—searching. She was a hunter—all mink are hunters; but *she had arrived*. Isn't it quite possible that somewhere along this little mink's journey she passed areas barren of any cover capable of harboring a meal? Of course it is. Had I seen her at such a spot she would have acted no differently than the two males described earlier. By the same token, had my vantage point been elsewhere along their paths, might I not have witnessed a similar display of singularity of purpose instead of what I described as "aimless meandering"? Of course.

Eyes Playing Tricks

While fishing near a small rural bridge one summer, I began to think my eyes were playing tricks on me. I thought I spotted movement in the loosely laid masonry supporting the bridge's opposite shore base, but I couldn't be sure. Not until I stared intently without shifting my gaze for a moment did I finally catch a fleeting glimpse of a weasel slithering in and out of the cracks between the rocks, searching for a meal. He, too, searched frantically and desperately like the little mink I just described—like there was no tomorrow!

A mink is a member of the family Mustelidae, the weasels. Except for size and color differences, mink and weasels resemble each other more than any other animals in the state. Unlike the weasel, the mink is famous for his swimming ability and a taste for fish. Still, they share many similarities. Mice and rats make up the greater part of their diets, and both are suspected of preying on the nests of gamebirds. Neither can pass up a hen house located close to their domain, nor an occasional frog or snake. And the mink

is thought to be hazardous to the health of marsh-dwelling birds and even young snapping turtles. So it is that their paths cross. Both might be taken by the mink trapper, especially in dry land sets. I've caught weasels in streamside mink sets on a number of occasions, but never a mink in a weasel set. It seems as though it should happen occasionally.

If you would trap mink, I suggest that you make an effort to watch them in action, *literally*. Easier said than done? Perhaps, but it's not impossible. If you can't set aside a special time for "mink watching," why not do more of your squirrel, turkey or deer hunting along a stream or pond? An old beaver dam is nature's grand arena for watching wildlife. Or spend a warm spring day on the lookout for an entire family of mink. The young are usually born in March or April and are blind and helpless for about five weeks, so a watch conducted in likely habitat during the month of May might afford you a ringside seat to a grand performance of one of the most fascinating creatures in Penn's Woods.

What you might observe will be confined to a limited area. The activity will be limited, to be sure. But combine it with what you can learn from tracking, which we'll cover in an upcoming issue of GAME NEWS, and you'll be able to look over new trapping grounds and determine at a glance where mink might be expected to run, prove it by tracking them, then trapping them.

What's In a Name?

The leopard, once supposed to be a cross between the lion and panther, takes its name from two words—leo, meaning lion, and pardus, meaning panther.

How to make and use . . .

A Reflector Oven

By Don & Marietta Zimmerman

WHILE LOADING food into our packs for a week-long canoe trip, Paul announced, "Don't take more than a day's supply of bread. I've brought flour, yeast and my reflector oven. We'll make our own."

The night before we'd pulled into a campground in Ely, Minnesota, after a two-day drive from Hershey, Pennsylvania. We were up early and found Paul Hansen, his wife Lavena and their two sons and daughter at their campsite. Quickly we began coordinating the last minute details for a week of canoe camping into Canada.

Paul had spent several seasons guiding youth groups into the area where we would be going. For this trip, he'd settled on an island campsite on Sunday Lake, Ontario.

On the second morning in camp, Paul pulled a flat canvas bag from his

MARIETTA ZIMMERMAN keeps a close eye on cake which will be the highlight of an outdoor meal. Such goodies are not difficult to prepare on reflector oven.

pack and quickly assembled his reflector oven. It was our first look at one. Paul had made his from sheet aluminum scraps he'd obtained from an aircraft factory. His oven consisted of two flat squares hinged together, two triangular shaped sides and a shelf.

While we were examining it, Lavena began the first batch of camp bread. By noon, the loaves had risen and Paul placed them in the oven and moved it near the fire. As we watched, the bread turned a golden brown. When the loaves had cooled, Lavena cut several slices, buttered them generously and passed them around. That convinced us. Marietta and I were going to add a reflector oven to our camping equipment.

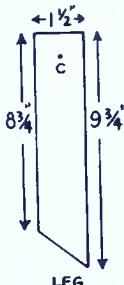
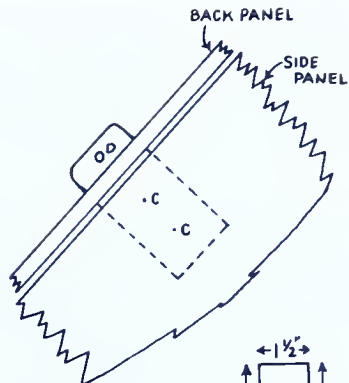
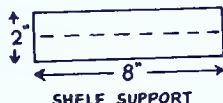
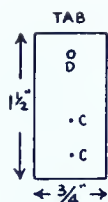
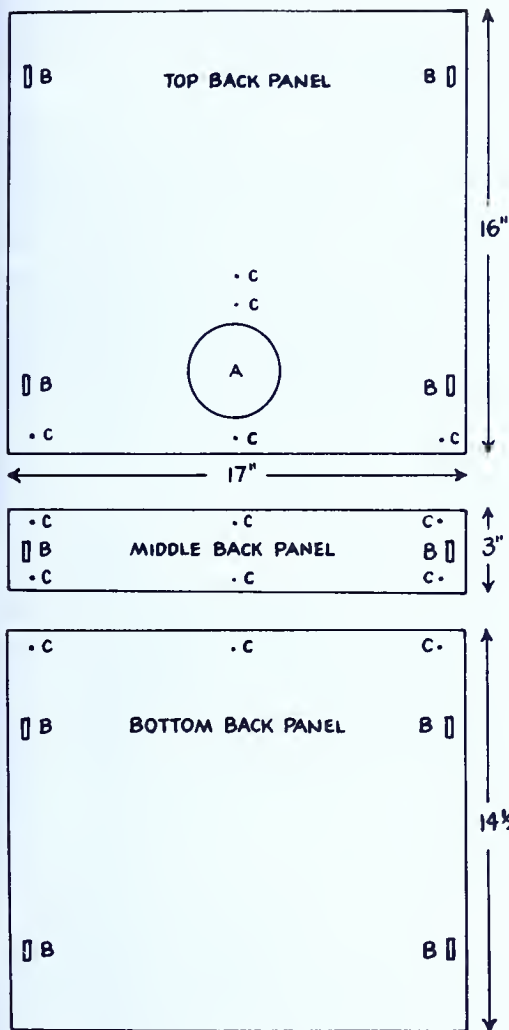
When we returned to Ely, we visited several outfitters and examined the commercial reflector ovens. Most commercial models have an extremely small baking shelf, and prices ranged from \$15-\$25.

Later that summer we were planning a week-long campout for 14 hungry teenagers and four adults in the Allegheny National Forest, so we decided to build an oven large enough to bake for several people.

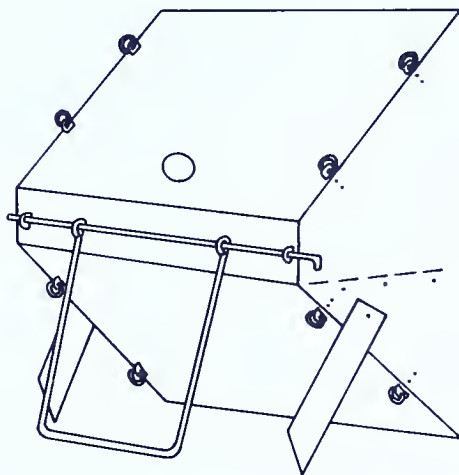
We found a barbecue grill that had a 12 x 16-inch rack and the same size briquet tray. We used the rack for the reflector oven shelf and the tray for a flat cake pan. To begin, we drew the plans around the shelf for maximum baking height with a minimum shelf depth (see diagrams).

Then we purchased enough .040-gauge aluminum for the sides and ends from a sheet metal shop, an aluminum piano hinge and a kitchen thermometer from a hardware store. Our tools included a hacksaw, file, electric drill, drill bits, pop rivet gun, rivets, ruler, square, hammer and center punch.





SHEET METAL SHOP can supply .040 gauge aluminum for oven, which can be assembled at home by any handy outdoorsman.



length at a 90° angle. If you can find aluminum angle "iron" scraps, they'll work fine. These are riveted into place as shelf supports.

We added both wire and aluminum legs to support and hold the oven upright. The wire was bent in a U shape and held in place by a removable wire rod that slips through the middle tabs (see diagram). The aluminum legs were riveted to the sides with extra washers. This allows them to turn freely.

We use a canvas bag to carry the oven and accessories. This keeps all components together and clean. Materials cost us less than \$10.

We cut the top, back and bottom panels from the sheet aluminum and drilled a circle of holes in the top back panel for the thermometer, which was riveted into place. Next we cut the piano hinge and riveted it into the bottom, back and top pieces.

Then we cut the side panels, cut, drilled, and shaped the tabs and riveted them onto the side panels. Next we marked the back panels where the tabs would go through and drilled holes to form slots for them.

Using the side panels, we laid the back panels in place and slipped wire clips through each tab. This held the unit together while we riveted the middle back section to the top and bottom panels.

To support the shelf, we cut two rectangular pieces of aluminum about 2 x 8 inches and bent them along the

Cooking is easy on a reflector oven. Select a place with a large rock or log and build the fire in front of it. This helps reflect heat into the oven and minimizes problems from wind gusts. Use a moderate fire and allow some coals to accumulate. They give uniform heat and you'll find them easier to work in front of than a roaring fire.

Next, assemble your reflector oven and prepare the food to be baked. Place the food in a pan or on a cookie sheet on the oven's shelf and place the oven at the edge of the fire. Adjust so the food will be level. If you don't do this, your cakes and cobblers will be uneven—the batter will run to one side of the pan and won't bake uniformly.

Watch Temperature

Watch the temperature closely. When the gauge reads 200°, keep the fire at that level. To do this, feed or starve the fire or move the reflector oven back. Watch the front edge of whatever you're baking. When it appears nearly done, move the oven away from the fire and turn the pan around so the back side of the food is closer to the fire.

This is necessary because the temperature in a reflector oven isn't uniform. Though we haven't measured the temperature at the front edge, we suspect it's much higher than the 200° reading at the back of the oven.

When you're finished, remove the reflector oven from the fire and let it cool. After you've used your oven three or four times, check the inside panels. If they're black, clean them. We use hot soapy water and steel wool to polish the aluminum surfaces. Bright surfaces reflect the heat best and shorten baking times.

You can bake most anything on a reflector oven. We've made bread, biscuits, cobblers, cakes, cornbread and cookies. For camping, many convenience mixes that need only water work well. You'll probably have to try a couple of brands to find the one that best suits

your tastes. An old standby, of course, is the all-purpose mix. We use Bisquick. It comes in premeasured packets that are easy to use.

For cobblers, try fresh fruit or berries or dried fruits. For fresh fruits, add a little water and sugar and cook briefly to make a syrup. For dried fruits, add water and cook until tender, then add sugar and cook until a syrup forms. Grease the inside of a pan that fits your oven and spread the mixture over the bottom. The skillet from nested aluminum cooking kits works fine. Next, make a batter following the all-purpose mix directions and pour over the fruit. Bake until the crust turns a light brown.

As for biscuits, we make drop biscuits, as they don't need to be kneaded. You simply mix the batter and spoon them onto a cookie sheet. Watch them carefully, for they scorch easily.

Cake mixes that need just water are easy to use, especially the type you mix right in the pan. These reduce dirty dishes.

Here's a simple recipe for a mix-in-the-pan cake:

Grease a 9 x 9-inch pan, place 1½ cups of flour, 3 tablespoons of cocoa, 1 teaspoon of soda, 1 cup of sugar and ½ teaspoon of salt in pan. Make three grooves for 5 tablespoons of cooking oil, 1 tablespoon of vinegar, and 1 teaspoon of vanilla. Place one of these ingredients in each groove. Pour one cup cold water over the dry ingredients and beat until smooth. Bake for 20 minutes or until done.

If you want to bake bread, try sourdough. It not only tastes better, but is easier to make as sourdough bread needs to rise only once. (Most standard breads must rise twice.) You can buy sourdough starter kits in the camping foods sections of many sporting goods stores and a few supermarkets.

Whether it's cakes, biscuits, cornbread or other baking delights, we've found a reflector oven adds to our enjoyment of outdoor cooking.

Or In the Air

The blue whale is the largest animal that has ever lived on land or sea.

Disasters I Have Made

By David Coldren

THIS ARTICLE is not about disasters which occur from time to time in nature. Floods, earthquakes, tornadoes, drought, etc., will not be discussed here. The disasters that are going to be enumerated are man-made and harm nothing but the perpetrator's ego.

I should have quit deer hunting in 1971. That was the year I made the first of many mistakes which have proved to be disastrous to my hunting reputation. I didn't quit, however, and have continued on that mistake-prone path ever since. This path has now widened to include not only deer but also turkey, geese, ducks, pheasants, grouse, rabbit . . . well, every species of game animal in Pennsylvania except bear. I do hope to remedy this exception in the future so as not to single out the black bear as the only animal that has not had the opportunity to outwit me.

It was the first day of the 1971 archery season. This was my first deer hunt ever and it was made with two friends, Rod Itermann and Bill Behney, who have since that date been my regular hunting companions. These two men have had the dubious pleasure of either witnessing or participating in all of my most disastrous hunts.

Seemed Like Eternity

The first deer hunt took place in the Frystown region of northeastern Berks County, on a warm and sunny fall Saturday. After being placed on what seemed to me a very old and rickety tree stand, I began my first unsuccessful vigil for Pennsylvania's wild white-tail. After what seemed an eternity but was really closer to 3½ hours, I began to doubt my friends' placement of me. I still secretly believe, although both of my friends deny this, they put me on that ancient stand to keep me out of trouble and out of their way.

Well, at about 9:30 a.m., after having taken my arrow off the bowstring, I



IT DOESN'T TAKE a big disaster like a flood or earthquake or tornado to make life difficult for a hunter. With a little practice, he can make his own.

began to climb down for a stretch break. As my foot found the first rung of the homemade ladder, I saw him out of the corner of my left eye. Not only was he the first live deer I had ever seen, but he was also a fine, fat, corn-fed 6-pointer.

To say I was excited is a mild understatement. He was gingerly feeding in a direction that was going to bring him directly under my tree stand. I stepped back up to the platform to re-arrow my bow. I found that between the time I first saw the buck and now, my fingers had stopped functioning as they normally do. The first arrow I pulled from the bow quiver dropped to the ground. Fortunately, the arrow dropped quietly and the deer continued to feed without ever raising his head. Then, as I pulled the second fiberglass arrow from the quiver, it



THE SECOND ARROW—I'd dropped the first—banged against my bow with such a racket that it startled not only me but the buck as well.

banged against my 50-pound Browning bow with such a racket that it startled not only me, but the buck as well. Panicking, I quickly tried to string the arrow, but this time rapped it against the oak tree in which I was standing.

The buck, of course, had enough of this nonsense. After looking up through the slats of the stand, he broke all land speed records in leaving the scene of the racket. As he jumped, I did manage to get off the noisy arrow, only to send it over his back at about 13 yards! After about 40 yards of hard running, the buck stopped and turned back to look at the fool in the tree, and I swear he smiled. Fred Bear would be ashamed of me.

Although this was the precedent-setting hunt of my disastrous seven-year career, it was not the worst. My first horrendous experience I chalked up to a combination of inexperience and buck fever. But there is no excuse for what I did in 1973, as by then I had a few hunts under my belt. My two friends

and I were hunting deer in Frystown again, only about a mile from the scene of my first debacle. It was the first day of the regular buck season and it was cold and sleeting. To gain comfort and protection, I wedged myself between two tree stumps in a position I can only describe as reclining. It was truly comfortable, but I did not ask myself one question: could I shoot from that position?

Of course, the answer was no, and I had to find that out the hard way. Out of the ghostly morning mists appeared the largest deer I have ever seen, a giant 8-pointer. I watched with bulging eyes, still not believing my incredible luck. Then, at the point I had decided would be the best one for a shot, I tried raising my 6mm Remington Model 660 to my shoulder. I could not. With a tremendous effort, I unwedged my shoulders from between those two stumps. But in so doing, I attracted the attention of the huge deer, who was off in an instant. I managed to get off one

shot, but I missed and he was gone.

In 1975 I finally thought I had conquered my stupidity. On the first Saturday of that year's season, I dropped in the snow of Pike County a nice 5-pointer with one shot from my 30-30 Savage. I had sold the 6mm Remington, of course, because it was that gun that made me miss the 8-pointer. As I casually approached the "dead" deer, congratulating myself on a fine shot, the buck jumped up and vanished into some pines and over the crest of a hill. To make matters more embarrassing, he ran into the waiting gun of a young 13-year-old boy from New Jersey who fired off one shot from his Davy Crockett Commemorative Rifle (I'll never forget that!) and the deer dropped for the second time, this time for good.

When I finally got there, the boy was in a state of jubilation. He was so proud I did not have time to feel sorry for myself. I helped the boy field-dress the deer (he had never done it before and neither had I) and drag it to his father's car. Although I didn't get that deer, I did get the satisfaction of helping a young hunter with his first deer.

Well, that just about chronicles my deer hunting mistakes to date. However, to list all my hunting faux pas would require more space than is

available. A few of the worst include: the hunt at Middle Creek where I managed to miss a goose I could have knocked down with the barrel of my Model 37 Ithaca; the Pike County turkey hunt where I missed not *one* but *two* turkeys at about 25 yards; and add to that list numerous "gimme" shots at pheasants, grouse and rabbits that usually leave my hunting partners shaking their heads in disbelief.

Not only am I perhaps one of Pennsylvania's worst shots, but inevitably I am in the wrong place in a drive or on post. During the 1977 deer season, the only buck I saw appeared while I was having lunch in the cab of my truck. The buck simply tiptoed across in front of the truck while I sat inside busily eating a sandwich.

Why am I recounting these bad experiences? I don't really know. Perhaps I'm a masochist, or perhaps I think that mentioning them will keep some young hunter from making the same mistakes. I'm sure most hunters are smarter than that, though.

I'll wrap this up by saying that whenever I'm in earshot of one of those "there ain't any game in Pennsylvania like there used to be" conversations, I just smile to myself. I know full well there is, and next season I'll probably miss it.

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Photos by Joe Osman

MOST large conferences meet in motels or conference centers; smaller meetings, in PGC division offices.



DGP Dick Donahoe makes a point during discussions; **Radio Engineer Bob Gray** (right) describes technical aspects of new mobile radios.



LUNCH PROVIDES an opportunity to chat with fellow officers, catch up on news and discuss common problems.

DGP Ed Sherlinski models new winter field jacket for **Jerry Wendt**, **Perry Hilbert**, **Paul Miller**.





The Professional . . . never stops learning

PENNSYLVANIA ESTABLISHED THE FIRST school in the world for training state wildlife conservation officers, and it's still one of the finest. Trainees spend almost a year at the Ross Leffler School of Conservation. The 17th Class just completed training. But that won't be the end of their education. Many officers take college courses on their own, and the Game Commission holds meetings, workshops and training sessions on a variety of subjects. Periodically since 1920, the entire uniformed staff has met for training and information-swapping; the fifteenth statewide in-service training conference takes place at Penn State's main campus this month.

Most training meetings, though, are specialized by geographic location or by job type (forestry, biology, land management, etc.). These photos were taken at a 1976 law enforcement conference in Danville. Men from three of the state's six field divisions attended (the other divisions had a separate meeting). They were brought up to date on new equipment, uniform items, legislation, court procedures, educational materials, policy and a host of other topics, and had a chance to discuss their own questions and problems.

Webster's definition of "profession" includes the phrase, "committing its members to continued study." That standard is crucial to natural resource managers, and Pennsylvania's conservation officers are proud of their professionalism.

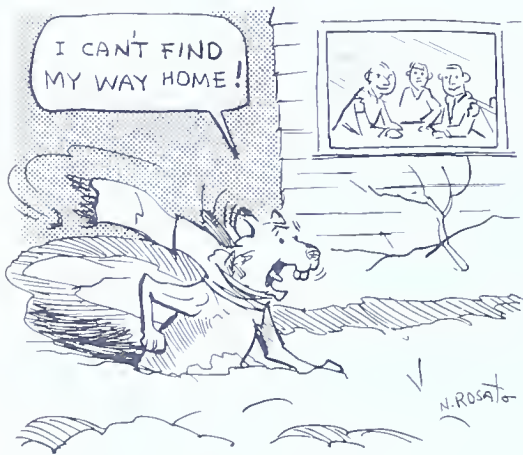


FIELD NOTES



Hit All Bases

SOUTHWEST DIVISION OFFICE—We conduct tours of the Southwest Division Office for the Boy Scouts, Girl Scouts and other groups; they're always a source of learning and revelation for these youngsters. The kids send us thank you notes after these visits and comment on their favorite animal or the highlight of the tour in their opinion. The one I liked best was from the little girl who liked "everything the most."—CIA John Badger, Ligonier.



Rushing the Season

BLAIR COUNTY—During a short break from their snowmobile ride, Deputy Jim Focht and some friends were drinking coffee at a local restaurant. As they relaxed, they watched a groundhog running around an adjacent building—somewhat confused by the three feet or so of snow. There are two reasons for writing this Field Note: first, it's a little unusual; and second, the men stated that if this made **GAME NEWS**, they would all buy a subscription to the magazine. So Richard Saylor and company, please contact Deputy Focht.—DGP Larry Harshaw, Hollidaysburg.

Real Whiz

YORK COUNTY—A woman near Stewartstown called and told me she had heard something running in her ceiling at night, keeping her awake. She stated she had opened a hole in the bathroom wall because they were remodeling, and saw what she described as a weasel looking at her. She took a box trap to her and showed her how to set it. That evening she had her two small children in the bathtub and decided to set the trap while they bathed. Before she got the children out of the tub, the weasel came out of the hole in the wall and ran into the trap. She put the trap and children into the car and took it out in the country and released it. With this kind of success, I asked her if she wanted to take care of my trapping complaints.—DGP Robert Yeakel, Red Lion.

Havabanana

WESTMORELAND COUNTY—Upon arriving at a rural home to investigate a deer damage complaint, I found twenty-four deer in the yard eating everything from white pine and Norway spruce to yucca plants. But the woman of the house told me that their favorite food was the banana peels that she threw out.—DGP Tim Flanagan, Mt. Pleasant.

New Habitat?

SUSQUEHANNA COUNTY—This past spring we heard a lot about our roads and all the potholes. One farmer placed an ad in our local paper, inviting all the local hunters to walk the dirt road by his farm. Claims he flushed twenty rabbits from just one pothole.—DGP Norman Forche, Montrose.

Let's Go Hunting

LAWRENCE COUNTY—No Close Season; Limit: as much as you can carry; Best Place to Hunt: All counties are excellent; Species: Aluminum cans, bottles and paper.—DGP Gene W. Beaumont, New Castle.

Summer Rerun

WARREN COUNTY—I took my snowshoes out of the car the other day and replaced them with my hipboots and potato hook. This year the beaver season ended on March 12; I received my first beaver damage complaint on March 13. With the warm weather and the runoff from melting snow, roads flooded and cellars filled. These beaver dams were trapped hard during the season and only one beaver was taken out. Now it's time for me to get the live traps and dynamite out of storage and take care of these problems again. Last summer I trapped and transferred nineteen beaver in my district and it looks like this year is going to be a "summer rerun." Hard for me to understand the position taken by the anti-trappers.—DGP William D. Shultz, Youngsville.

Nowhere Near

BERKS COUNTY—Rumors always have a way of spreading much further and wider than they really deserve. Recently it was stated in a Berks County newspaper that Potter County residents feel the deer mortality was 85 percent in some areas. This always results from people making statements about things they know very little about. Deer have a miraculous ability to survive harsh winters, much more so than most of us realize. They will spend days on end without even moving, with their stored body weight supplying them with the needed nourishment. Starvation does exist and is terrible for sure, but the death rate is nowhere near 85 percent.—DGP Michael W. Schmit, Shillington.



Cold Welcome

VENANGO COUNTY—In late March, I saw my first robin of the year walking in my yard. Less than an hour later it started to snow.—DGP Leonard C. Hribar, Seneca.

Ready for Us?

RLSC—The training period for the 17th Class of game conservation officers is nearly over. The range of subjects covered has been tremendous—from legal procedures to dendrology, from rabbit management to beaver tagging. The climax of the eleven months of training will be our graduation and assumption of duties as land managers or game protectors early in July.—Trainee William C. Wingo.

Happens to Each Class

RLSC—Thanks to the good cooking of Mrs. Adams and Mrs. Holt, the Game Commission has about 150–200 more pounds of game protector than they bargained for!—Trainee John Roller.

The Real Heroes

RLSC—It's been a long winter at the Training School. We think we've had it tough, but the real heroes are the wives who have sacrificed a great deal to see their husbands happy in their work. I guess we are lucky men in more ways than one!—Trainee Chuck Arcovitch.



Too Stupid?

MONTGOMERY COUNTY—I have found that the most misunderstood animal in my district is the opossum. It is the most feared but the least likely to harm anyone, the most common but the least known, the most likely suspect to be confused for a creature from Mars. The opossum is our only mammal with a pouch to carry young; it has a prehensile tail, and is extremely stupid. But as stupid as it is, I've never known it to destroy its own environment. I guess that's because it takes brains to accomplish such a feat.—DGP William Wasserman, Collegeville.

Price of Liberty

BLAIR COUNTY — Today's sportsmen must constantly be vigilant regarding state and national legislation. With so many attempts to introduce bills relative to our sport, in the form of gun control, elimination of the leg-hold trap, and construction of model airplane facilities on our State Game Lands, we must be knowledgeable about these current events and take time to correspond with our respective legislators to reveal the silent majority's opinion. Your privilege to hunt or trap is constantly being jeopardized. Therefore, be an alert sportsman by keeping posted on such items. One method would be to attend the monthly meeting of your local federation of sportsmen's clubs.—DGP Don Martin, Hollidaysburg.

Young Wildlifers

FRANKLIN COUNTY—I recently attended a Wildlife Festival conducted by Mrs. Purnell's elementary class at the Greencastle-Antrim School System. These children not only prepared materials but produced their own program which was given to other classes, parents, and anyone else desiring to attend. As I sat through their presentation, I was impressed with their attitude and keen interest in the wildlife resource of not only this state, but the world. These children related the importance of the sportsmen and the part they play in the management of our wild creatures. A job well done by Mrs. Purnell and her students.—DGP Ron Schmuck, Greencastle.

Shocking, Sad

PERRY COUNTY—Did your game protector do you a favor and arrest you for having a loaded firearm in your vehicle? "Favor!" you say. It's hard to understand why to consider it a favor, until you investigate a fatal hunting accident caused by loaded firearms in vehicles. I had such an investigation Easter weekend. It is shocking and very sad. If you still insist on this Russian roulette practice, remember—our next investigation might be of YOU. Spare your family the heart-breaking news. Take a few seconds to transport your gun safely—as though your life depended on it.—DGP Butch Camp, Elliottsburg.

A Gross of Nongame

RLSC—Did you know that approximately 160 different species of birds occupy our wetlands and only about 16 of these are game birds? Fact is, the sportsmen's dollars have been paying for wildlife management in Pennsylvania for many years; however, these same sportsmen are frequently accused of supporting only those programs which benefit game species, with no regard for wildlife in general. Our game lands are "multiple use" not only in terms of people use, but more importantly in terms of wildlife utilization.—Trainee Robert L. Lumadue.

Slippery Solution

ELK COUNTY—Recently I heard of a lady in St. Marys who had a large bird feeder on a pole in her backyard. Several squirrels took over the feeder, working it daily and going through an excessive amount of birdfeed. She greased the feeder pole and watched as the squirrels tried desperately but just couldn't hang on.—DGP Harold Harshbarger, Kersey.

Shady Dealing

LACKAWANNA COUNTY—During several investigations of unlicensed fur buyers, I discovered many young or new trappers had sold their furs at less than half the true value. One illegal buyer, thinking I was an inexperienced trapper, told me, "The market on fox has been saturated; the buyers don't need anymore. I feel badly for you, but I can only offer you \$20 for your best red fox." At that time, red fox were worth \$55.—DGP C. P. Cinamella, Moscow.

Brain Surgery

UNION COUNTY—I took a pheasant that had been found along a rural road to Deputy Bob Holman, who has a wildlife salvage permit. I asked Bob if he would keep the bird a few days as it seemed okay except for an obvious loss of equilibrium. One day Bob called to report he was releasing the pheasant and he told me of its recovery. The bird had not seemed to improve for several days; a close examination revealed one eye was dilated and the other was constricted. Bob, a one-time biology teacher and an all-time wildlife wizard, made a closer examination. The only abnormality he found was a deep depression in the bird's skull. Deputy Bob Holman drilled a small hole in the skull, inserted a hook and lifted the depressed bone. Almost immediately the bird regained its stability and, as I write this, is probably out there somewhere siring little fellows. Thanks, Bob!—DGP Bernie Schmader, Millmont.

Busman's Holiday

CRAWFORD COUNTY—The old story that a game protector's work is never done sure seems to be holding true for me. Not having had any time off for months, I recently decided to take a few days off and go home. Upon arriving there, I received one complaint about a skunk raiding my father's hen house; on at least one occasion, it had done battle with my father and won. The second day, I received a complaint about a deer hit by a car, and many inquiries as to the condition of game after the long winter. On the last day of my visit, I was asked if I would take two foxes off a fellow's hands who wanted to give them away. Sure was good to get back to work.—DGP W. A. Sneath, Meadville.



Secret Formula?

LUZERNE COUNTY—A family in Edwardsville was having trouble with a raccoon getting into a garbage can. They set a Hav-a-hart humane trap, but had no success because the coon would remove the bait without getting caught. They were baiting with hardshell crabs, crab meat, lobster and sardines with no success. The caller had been told that I knew a secret bait to use. I have no secret baits, but suggested they pour household ammonia on the inside of the garbage can lid and replace the lid on the can and this would discourage the animal.—DGP Edward Gdosky, Dallas.

Deer Refuge

WASHINGTON COUNTY—Recently some deer were shot for crop damage in my district. The interesting part is that all of the surrounding farms were posted, "NO DOE HUNTING." I guess some people never learn.—DGP Jack Sickenberger, Houston.

Helping to Death

CLINTON COUNTY—Every winter a few people throw ear corn along the edge of various roadways to "help" the wildlife. Meanwhile the rest of us try to dodge the sudden influx of squirrels and deer standing on these roadways while feeding.—DGP John Wasserman, Renovo.



Doin' the Bunny Hop

SCHUYLKILL COUNTY—During the deep snow I took care of a rabbit complaint just outside of town. One cold morning I picked up a rabbit that had entered the trap overnight. Placing the bunny in a woven plastic feed bag for transfer out of town to a more remote area, I tied the bag shut and set it on the sidewalk while I reset the trap. The bag took off across the yard in three feet of snow with one DGP in hot pursuit. After a thirty-yard chase I caught the bag and put it in the trunk. When I got to a release area and opened the trunk, the bag leaped out and I just barely caught it before it took off again. Maybe I need a heavier, darker bag?—DGP Rod Dilling, Auburn.

Here and There

CAMBRIA COUNTY—I have heard remarks from people concerning our old feeders being empty and no feeding being done by the Game Commission. Such is not the case. When necessary, rather than use the old centrally located feeders, the Commission in this area has gone to small portable feeders erected right where the turkey are feeding, usually at spring seeps and along creek bottoms. This way the turkeys conserve precious energy by not having to travel to centrally located feeders. Since large flocks aren't congregating, predation is reduced.—DGP Dan Jenkins, Patton.

Realistic

RLSC—Throughout January and February, our class spent several days cutting browse that could be utilized by deer. On one of these trips we had to cross a small creek and discovered that someone had made several sets for beaver. Our "resident trapping expert," Trainee Mark Crowder, offered to explain how the sets were made and to point out what to look for in the way of violations. I guess Mark wanted to be authentic and show what usually happens to a game protector when he checks traps, because as he was checking the last one he fell through the ice into waist-deep water.—Trainee Ron Stout.

Grow a Bird Feeder

RLSC—Summer is here and everything is green and growing. The first flurry of fishing season is over and winter is all but forgotten. Forgotten, too, is the concern many felt for the wildlife caught in the heavy winter snows. Actually, now is the time to be concerned with helping the wild creatures caught in winter's onslaught. This is the time to help wildlife by planting shrubs and bushes which will provide winter food and cover for wildlife. So get with it, wildlifers—instead of building a bird house or turkey feeder, grow one.—Trainee Charles H. May.

1978 Report to the Pa. Federation of Sportsmen's Clubs

By Glenn L. Bowers

Executive Director, Pennsylvania Game Commission

WE ARE grateful to the many sportsmen who joined in our SPORT program but we need a lot more help. This will be a continuing effort and with the help of additional sportsmen we can progressively improve the image of the hunting fraternity. This is a year-round project with added special emphasis during the critical periods. We must urge more of those who go afield to adopt and live by the SPORT program.

We have indicated in the past we must be responsible for the welfare of the various species in our consideration of harvest regulations. Hence, in 1977 we reduced season lengths for fall turkey hunting and we did not have a bear season. We are hopeful that more hunters will understand our obligations and that our first and primary responsibility is to the wildlife resources basic to our hunting enjoyment.

In the future we are certain to be called upon to do more in the way of surveys, inventories and data gathering preliminary to decisions affecting any and all wildlife resources. We will need to know more about the relation of decisions and actions to other resources and land uses. Already numerous states have prepared or are in the process of preparing Environmental Impact Statements or assessments on the management and harvest of various species.

We are concerned about the future.



AS DAVE DEHAVEN, secretary of the PFSC, Bob Bielo of the Susquehanna River Basin Commission, and Ed Miller of the Fish Commission listen, PGC Executive Director Glenn Bowers addresses sportsmen.

Many factors are working against hunting as we know it. Unfortunately, too many hunters take too much for granted. Perhaps one of the reasons is that the privilege of hunting has come too cheaply. A more deserved appreciation must be afforded the privilege of hunting. Participants must be prepared to pay more for the privilege. Further, we must work together to perpetuate hunting. Too often hunters and even organized sportsmen become chronic grippers and assume adversary positions when we should be working together.

Sometimes hunters ask, "What is the Game Commission doing for the hunter?" Practically everything we do is for the hunter—protecting his interests through law enforcement and information and education, places to hunt on Game Lands and private lands in our cooperative programs, management to



enhance living conditions for wildlife, propagation of some species to "sweeten the bag," and a host of other endeavors all designed with the hunter in mind. But it's not easy and it grows tougher every day.

The latest national survey of hunting, fishing and wildlife-associated recreation reported 20.6 million hunters in the United States. It's easy to recognize why we have problems when we make some comparisons. With over 1,187,000 of these 20.6 million hunters in Pennsylvania we are accommodating about 5.8 percent of the nation's hunters on less than 1.25 percent of the land area in the United States.

Lands Decreasing

Unfortunately the available lands for production of wildlife as well as hunting are decreasing. Several years ago a federal official called upon farmers to plow up everything for crops, even the fencerows. This was a serious blow to numerous wildlife species but especially the much sought cottontail and ringneck.

We are advised by the U.S. Fish and Wildlife Service that there will be no exceptions for shotguns, such as 16- and 20-gauge with lead shot, in steel shot areas in 1979. So if you were planning to try to circumvent the steel shot regulations by getting a shotgun now excepted, forget it! In 1979 only steel shot will be allowed in the non-toxic shot areas. It is highly unlikely that steel shot will be manufactured in gauges smaller than 12 because of the inability to provide sufficient shot in the smaller gauge shells.

The Capitol Hill newsroom did us a great disservice when they reported on the Senate's passage of our long sought fluorescent orange bill. Their news release has caused much confusion and unjustified opposition because, as they reported, it would be applicable to all hunting. This is a gross error. The proposal would require 250 square inches on head and body combined for big game firearms seasons—bear and deer but excluding archery and muzzle-loader. We urge you to contact your members in the Pennsylvania House of Representatives, asking them to get

Senate Bill 179, Printer's No. 1392 moving. Pennsylvania is far behind many other states in requiring this safety color.

This year an envelope will be supplied for mailing antlerless license applications to the county treasurers. Another part of the regulations will require the applicant to enclose a self-addressed and stamped envelope for the return of his application if not accepted or his license if accepted. Recent interpretations of postal regulations prompt this new requirement.

Most of you are aware of complaints from farmers and foresters in recent years on deer damage. We have been concerned about these complaints and recognize problems in some areas. In the Allegheny National Forest area there are serious problems with achieving satisfactory regeneration after timber harvests. Without regeneration of trees, we have no forest and no living accommodations for deer, bear, turkeys, etc. Without cutting we have economic loss of merchantable timber and no diversity of habitat. The National Forest Management Act requires that regeneration must be assured or the cut cannot be made.

In order to attempt to alleviate this problem and seek solutions to similar problems elsewhere, we will embark on a cooperative program with the Allegheny National Forest. We propose to designate a special management area comprised of Warren County east of the Allegheny River, McKean County west of Route 219, Elk County west of Route 219 and north of the Clarion River and Forest County except that portion west of the Allegheny River. On this area we will attempt to regulate deer numbers to be more compatible with utilization of the forest for timber and other wildlife. Studies will be initiated to monitor the results of the programmed timber harvests and deer herd management and the effects on a variety of wildlife. You will be hearing more about this in the coming months, but I wanted to alert you to this special program at this time.

In line with our earlier comments concerning our primary responsibility for the resources supporting hunting,

we are continuing our expanded studies on the black bear. We will be moving bears from areas of abundance to under-populated range. Hopefully this will result in the establishment of viable breeding populations in the depleted areas. I'm sure most of you are concerned about the bear situation and the tremendous interest in this resource. I'm also sure that most of you recognize the need to regulate bear hunting pressure. The only way this can be done is with a bear license. We respectfully urge your support of a bear license to insure the future of this species in Pennsylvania.

Earlier we alerted you to a move to leased quarters directed by the Department of General Services. The leased site was rendered unavailable and we are now requesting General Services to allow us to remain in our historic quarters in the South Office Building until such time as we have constructed our own facility on the site we already own in Susquehanna Township just north of Harrisburg. Our building program plans are progressing and we are hopeful the necessary approvals will be forthcoming.

Last fall I alerted you to our financial situation and the need for more adequate funding in the future. In 1972 I indicated the interest of some in a revamping of the license system. We will be undertaking a survey through a random sample of purchasers of hunting licenses to attempt to determine the most palatable manner to obtain ad-

ditional license revenue. We carried on a pilot questionnaire program at the Eastern Sports and Outdoor Show to test our approach. We learned that 89 percent of the hunter respondents were in favor of increases in license fees.

There appears to be changing sentiment relative to the scheduling of the "buck" season. Society and social values have changed tremendously in the last decade. Economics figure as an important impact on the time available for some hunters. We may develop a survey to determine preferences on the scheduling of the buck season. The number of bucks killed in the second week of the season is relatively few. Many of our hunting seasons open on Saturdays. Perhaps a Saturday opener for bucks followed by a week-long season including a second Saturday would meet the desires of the majority of buck hunters. This would remove our deer seasons further from the Christmas season. We continue to receive complaints that deer seasons encroach too closely on Christmas.

Again we thank you for supporting SPORT. Let's get more hunters interested in SPORT. Let's work to get GAME NEWS into the hands of more hunters. Everyone who hunts should read GAME NEWS.

This is the text of a speech given by Mr. Bowers on April 7, 1978, at the spring convention of the Pennsylvania Federation of Sportsmen's Clubs, in Carlisle.

Deer and Bear Records Book Available

Pennsylvania Big Game Records, 1965-1976, is the complete report on the Game Commission's six statewide deer and bear scoring programs. This 112-page paperbound book contains a complete integrated listing of all Pennsylvania-harvested deer and bear which have been measured during the programs (using the Boone and Crockett system) and which meet the minimums established by the Commission. In addition, personal accounts of most of the hunts which collected the top trophies are included, along with photos of more than 160 high-scoring deer and bear, annual harvest totals from 1915 through 1976, and other informative items. Price is \$1.00 delivered, from Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120.

Hard to Comb

The porcupine's quill is actually a hollow hair, three inches in length or longer.

Endangered Species Program Launched

THE Pennsylvania Game Commission and the U.S. Fish and Wildlife Service have signed a cooperative agreement to launch an endangered species program in the commonwealth. Under the agreement, the federal government will provide two dollars for each dollar spent by the Game Commission during the next five years to determine the status of and improve conditions for threatened or endangered species in Pennsylvania.

Species currently listed by the federal government as being endangered, which are or were resident to Pennsylvania, are bald eagles, peregrine falcons, Indiana bats, Kirtland's warblers and Delmarva fox squirrels. Southeastern Pennsylvania was once part of the Delmarva fox squirrel's range, which is now restricted to Kent, Queen Anne's, Talbot and Dorchester Counties in Maryland.

The agreement is designed to foster better habitat management and protection for the species covered by the program. Specifically, funds will be used to determine the status of threatened or endangered species of wildlife in the state, for protection of these species through law enforcement, acquisition of habitat critical to the threatened or endangered species, and intensive in-service training for Game Commission law enforcement personnel on the specialized endangered species work.

Signing of the agreement concludes three years of negotiation between the two agencies. About twenty other states have already executed agreements with the Fish and Wildlife Service.

Congress, in fashioning the 1973 Endangered Species Act, incorporated cooperative agreements in order to allow qualifying states to retain and strengthen their traditional wildlife management roles. This was done out of recognition that the states want to assist in the restoration of their own endangered species and are in many cases more familiar with the conservation needs and biological status of their resident wildlife—and those species which may be headed for trouble—than the federal government.

The states and territories have well over 5,000 conservation officers and many wildlife biologists, while the U.S. Fish and Wildlife Service has only 180 law enforcement officers in the field and only a few hundred field biologists. Thus, the agreements greatly increase the available manpower to conserve endangered species.

Included under conservation is authority to conduct research, census taking, law enforcement, protection, habitat acquisition and maintenance, species propagation, live trapping, transplantation and limited regulated taking.

Game Recipes Requested

We are planning to publish a paperback book of game recipes. Over the years we have received numerous recipes from GAME NEWS subscribers, and our mail indicates many readers are interested in this subject. Doubtless you have favorite recipes of your own. If you have a recipe for any game bird or animal which your family particularly likes, we would be glad to see it. No payment can be made for such material, but if we use your recipe we will give you credit as the contributor. Recipes should be typed or carefully printed on one side of the paper only, following the conventional format for such items. Submit to: RECIPES, Pennsylvania GAME NEWS, P.O. Box 1567, Harrisburg, Pa. 17120.

What to do if you see a dyed shorebird:

Dr. R. I. G. Morrison of the Canadian Wildlife Service reports that cooperation by Pennsylvanians in a shorebird migration study has revealed new information on migration routes and strategies. Along with his thanks for past years' efforts, he sends a request that we again assist in the program. Over 30,000 birds in the southern James Bay area have been dyed yellow/orange and banded during the past three years. Biologists want to find out just when and where they pass through on their travels between Arctic breeding grounds and warmer wintering areas. Migrating shorebirds rest in both coastal and inland wetlands.

If you see a shorebird with dyed feathers or leg bands, please record details of: species, place, date, color marks, and numbers of other shorebirds present. Please record color and area of the bird dyed; for colored and plain metal leg bands, record which leg was banded, color and position of bands (above or below "knee," whether colored band was above or below metal band if bird had both).

Send reports to Dr. Morrison, Canadian Wildlife Service, 2721 Highway 31, Ottawa, Ontario, Canada K1G 3Z7. All reports will be acknowledged.

1977 Wildlife Conservation Awards

FOR THE SECOND consecutive year, Ted Caldwell of Derry Area School, Westmoreland County, took first place in the FFA Wildlife Habitat Development Contest. Second place for 1977 went to Bruce Hrebik, of Kennard-Dale School, York County, and Jenny Hartman, of Garden Spot School, Lancaster County, garnered third place. Jenny took second place in the previous year's contest, while Bruce was one of the winners in the Southeast Division, so the current results show the continuing interest of these young people in this program.

The 1977 winners in the Game Commission's six field divisions were: Northwest—Douglas Dick, Grove City Area School. Southwest—Brian Shaffer, Ron Seiler, and Dan Wilhelms, all of Derry Area School. Northcentral—Mark Swatsworth, Scott Graham, Mike Turley, all of Clearfield School; Southcentral—Paul Lininger, Cumber-

land Valley; Adam Deckerhoff, Bedford; Corey Eslinger, Cumberland Valley. Northeast—Wendall W. Watkins, Mick Hicks, Todd Charles, all of Troy School. Southeast—Mike Eschenaur, Oley School.

The Pennsylvania Game Commission and the Pennsylvania Department of Public Instruction co-sponsor this competition. It is open to any vocational-agricultural student in the state. Students set up work plans in land management, predator control, conservation education, marsh and stream development, firearms safety, etc. These plans must be approved by the student's Vo-Ag area advisor and teacher and the local game protector. Game Commission representatives and Department of Public Instruction personnel inspect the projects. Judging is done by comparing the area with photos taken before work started. Prize money of \$1000 is divided among the winners.

Wildlife Weathermen

Beavers always cut their winter supply of wood in good season. An early cutting generally means an early winter.

It's Mine . . . It's Mine

Most of the early spring song of birds is for the purpose of announcing their claim on certain nesting areas.

Attention—Hunting License/Stamp Collectors

1976 was this country's Bicentennial Year, and Pennsylvania's regular hunting licenses included a printed message "Pennsylvania Bicentennial Issue" and an appropriate 1776–1976 logo of a hunter with muzzleloader and coonskin cap. 1976 was also the first year of issue of a stamp-type license for the archery and muzzleloader deer seasons. Many collectors, both stamp and regular license "philatelists," expressed interest in purchasing these. We have a supply of 1976 licenses—regular and stamp type—available for sale to the public. All are uncirculated. Only 1976-year issues are available. We have no earlier-year licenses for sale. The 1976 licenses can be obtained at a cost of 25¢ per stamp or license plus a \$2.00 handling charge per order. Make check or money order payable to the Pennsylvania Game Commission. Do not send cash. All orders will be filled on a first-come, first-served basis. Only a limited supply is available.

1976 Stamp/License Collector Order Form

Please send me the following uncirculated 1976 Bicentennial Licenses/Stamps:

Quantity	Description	Unit Cost	Total
_____	Pa. Resident Junior Bicentennial Hunting License	25¢	_____
_____	Pa. Resident Adult Bicentennial Hunting License	25¢	_____
_____	Pa. Resident Senior Bicentennial Hunting License	25¢	_____
_____	Pa. Nonresident Bicentennial Hunting License	25¢	_____
_____	Pa. Archery Stamp (First Year Issue)	25¢	_____
_____	Pa. Muzzleloader Stamp (First Year Issue)	25¢	_____
	Handling Charge		<u>2.00</u>
	Total		_____

Ordered By (Please Print)

Name _____

Address _____

City _____ State _____ Zip _____

Send Order To: Pennsylvania Game Commission, Division of Administration,
P.O. Box 1567, Harrisburg, Pa. 17120.

Books in Brief . . .

(Order from publisher, not from Game Commission)

The Ted Trueblood Hunting Treasury, by Ted Trueblood, David McKay Co., 750 3rd Ave. NYC 10017, 348 pp., \$14.95. This big book is a superb collection of Trueblood's writings from *Field & Stream* and *Elks Magazine*. It deals with all sorts of subjects—hunting for deer and elk, moose and antelope . . . camp cooking . . . woods lore . . . equipment . . . dogs . . . upland game and waterfowl . . . rifles and shotguns—with entries such as "Beware the One-Wire Fence," "Make Sure You Missed," "Moose Are Too Big," "How to Sit Still," and "Days on Bunny Mountain." It even includes Ed Zern's famous column, "Is There Really a Ted Trueblood?" If you want to know what it was like for a kid to grow up in a small western town, try the big city and realize its lacks, then return to Idaho to become one of the alltime great outdoor writers, read this book.

The Complete Soaring Pilot's Handbook, by Ann and Lorne Welch and Frank Irving, David McKay Co., 750 3rd Ave. NYC 10017, 412 pp., \$9.95. The standard text (originally published in 1955, completely revised and updated) for soaring pilots. Covers glider design and performance, navigation, weather—whatever you have to know to be one of those who truly inherit the wind.

YCC at Blue Knob

By Tom Wylie
DGP, Bedford County

FORTY-EIGHT young people are at work this summer on Game Lands in northern Bedford County. They are involved in the Game Commission's second year of cooperation with the Youth Conservation Corps camp at Blue Knob State Park.

A federally funded program of the U.S. Department of the Interior, administered by the YMCA, the YCC involves young adults in a work-and-learn firsthand experience with conservation problems and techniques.

Building on last year's highly successful venture, the 1978 program has been expanded from 36 to 48 participants. The young men and women come from all across the state and a cross-section of social and economic backgrounds.

Game Commission field personnel assist with planning and instruction for projects, such as drawing up a game management plan, and work with the young people during many of the actual field activities.

Last summer the Game Commission-related portion of the program centered on State Game Lands 26, adjoining the state park.

Corps members developed wildlife management plans for both game and non-game species in various areas, constructed a wooden bridge to gain access to a section of Game Lands where they helped plow and plant food plots for wildlife, and also laid out and marked a hiking and nature trail that begins in Cambria County and crosses Game Lands in Bedford.

Another project was the construction of a retaining wall and footbridges at the site of the historic Cox Monument on Game Lands 26. This marks where two young brothers named Cox died after becoming lost in the mountains in the mid-1800s. The tragedy was the basis of the legend of the "lost children of the Alleghenies."

YCC members are paid for their labor, but there is much more to the enterprise than providing summer jobs. The corps aims to make conservation and environmental science more significant than textbook abstractions by involving YCC members in actual field situations. Problems, alternative approaches, results and knowledge gained are real.

YCC participants work in coed crews of six, including a group leader who is usually a college student. Crews rotate so that everyone has experience on each project in the program.

Corps members live in cabins that were built by the Civilian Conservation Corps of the 1930s.

Darrell Johnson of Reading, a teacher, heads up the camp at Blue Knob, one of the state's two resident YCC facilities. He is assisted by a small staff.

Each year a new group of participants is selected from literally thousands of YCC applicants. The program sharpens their awareness of environmental concepts, and the cooperating agencies benefit from the fresh perspective of young minds with young ideas about the future of Pennsylvania's land and wildlife resources.



Grove City High School Works for Wildlife

By John Behel

Hunter Education Coordinator

THE FUTURE FARMERS of America chapter and Outdoor Club of Grove City Area High School are staunch supporters of the Pennsylvania Game Commission's SPORT Program—"Sportsmen Policing Our Ranks Together." Since the school is located in an extensive farming area, the students recognize the need for good landowner-sportsmen relations to perpetuate hunting recreation. Doug Dick, president of the FFA chapter, feels that the SPORT Program has led to more awareness of the need to improve the image of hunting. Since their participation with SPORT and other wildlife programs, hunters in that area have improved their conduct, and there is a better understanding of hunting.

Grove City Area High School's interest in wildlife conservation goes back over the years with the FFA chapter and Outdoor Club as centers of activity. SPORT has been just part of the overall contribution to developing community interest in hunting.

One of the leading projects at the high school is the Vo-Ag Conservation Wildlife Habitat Improvement Project, in cooperation with the Game Commission and Department of Education. This project gives students a year-round wildlife management program on the land. Project data is recorded and submitted for state and national awards.

Project concepts and benefits are many. Cooperation between farm owners and the Pennsylvania Game Commission has resulted in the production of numerous types of habitat supporting many wildlife species in a manner consistent with agriculture. Citizens from all walks of life have enjoyed the benefits of these efforts. Vo-Ag students provide the impetus for a bright future through sound farming techniques. By enriching their educational experience with the wildlife conservation project, the participants gain a better understanding of the vital land-plant-animal relationships. Through Vo-Ag education they learn to manage the land economically and also aesthetically.

Participation in Penn State's Hunter Education Study, conducted in cooperation with the Game Commission, has also provided emphasis on safe handling of sporting arms and hunter responsibility in presenting a better hunter image. With this study the groundwork has already been laid for Grove City students and the FFA chapter to promote the challenge of the SPORT Program. Marksmanship and hunter education classes are also presented in cooperation with the Jr. High Conservation Club and Grove City Sportsmen's Club.

Money from the sale of deer hides collected each hunting season is donated to the Children's Hospital in Pittsburgh. Another student endeavor is the "Leave 'Em In The Woods" project. This program, well publicized with posters provided by the Game Commission and distributed by students, cautions people to leave young wildlife in the woods. Every year the Game Commission pleads with the public to leave wildlife in its natural





Photo by CIA Fred Servey

habitat. Every year many people ignore the pleas. Game protectors are plagued with caring for young bunnies, robins or fawns that have been picked up by well-meaning persons who believe the creatures have been orphaned or abandoned by their natural parents. This wildlife seldom survives. The student project gives a big assist to a vital educational effort.

A list of participants reads like a "Who's Who" in conservation and wildlife management at Grove City High School. Many students have participated and contributed much to community development in hunter education. Some of the students active in the wildlife and SPORT Programs here are Dawn Grace, Mary Rice, Jan Turner, Ken Reider, Rick Webber, Doug Dick, Frank Grace and Bill Granger. Mr. David Boyer, Vo-Ag advisor, has provided necessary encouragement and guidance. One of the top priority projects now being planned by students and Dave Boyer is an on-site arboretum with an outdoor education field trail. Like other projects developed by Grove City High School, it will be a show case for other schools to follow.

Doug Dick has worked closely with the Game Commission, DGP Frank Zalik, and Dave Boyer. Doug, an outstanding student in wildlife management, was chosen first place winner in the PGC's Northwest Division for wildlife habitat improvement and fourth in the state for the same award on two different occasions. He has also been selected a third, first, and eastern regional winner for the Fish and Wildlife Management Proficiency Award.

There is always a highlight to every successful program; Grove City High School's annual wildlife dinner recognizes the year's activities and the success of hunting. Wildlife dishes that just can't be beat are prepared for this affair. Anyone who says he doesn't like game has never tasted the fare at Grove City High's annual wildlife banquet. Until next year's awards, students, parents, teachers, school administrators, hunters and non-hunters will continue communicating for a better understanding of wildlife management and hunting. For at Grove City, there is just no reason at all for misunderstanding.

Some Have It, Some Don't

Salamanders have a tail throughout their lives. Frogs and toads only have a tail during the tadpole stage.

MY FIRST assignment upon graduation from the training school was in the Kutztown district of Berks County. This is rich farming country and the people there are warm and friendly and proud and very Dutch.

Such country lends itself especially well to pheasants and mourning doves. One of my duties during the summer was trapping and banding doves which concentrated in the pines around the Lake Ontelaunee Propagation Area. In cooperation with the U.S. Fish and Wildlife Service, we placed dove traps along dirt roads and at a gravel pit where the birds liked to pick grit and dust. The traps are small wire boxes with two inverted funnels as entrances. A thin trail of cracked corn led out through each entrance. A bird would investigate the corn and, eating as it went, follow the trail inside. Once inside, the bird would not lower its head to go back through the tunnel.

During the heat of summer, dove traps had to be checked twice each day. An excited bird would soon perish in the hot sun, and predators patrolled the trapline by night. However, the biggest problem was a group of people who lived next to the propagation area. These people would steal my traps and set them on their property to catch young pheasants which abounded in the area. Apprehension and prosecution didn't seem to hinder them, so when an illegal still was discovered on their property, turnabout seemed fair play. I notified the Liquor Control Board and we conducted the raid while my friends were tending their still. 'Tis a hard thing for a drinkin' man to witness, the complete destruction of two 55-gallon cookers, molasses and rum. But it was done in fine tradition, complete with fire axes and all. And to my satisfaction, they didn't bother my dove traps ever again.

DGP Ted Fox in Lancaster County and a few people in Southeastern Pennsylvania still trap doves for the Fish & Wildlife Service. I wonder if they still have the fun and adventure that I had?

July 5—Today I met CIA Harry Merz and together we drove to the Scotia Range outside State College to participate in a special teachers' workshop. Teachers from across the state take summer courses at Penn State. The teachers in this course were to receive instruction today on the materials and services available to them from the Game Commission. They also had the opportunity to fire 22s and shotguns on the range. For some, this was the first time they had ever fired a gun. DGP George Mock also gave an interest-



By Jack Weaver

**District Game Protector
Tioga County**

ing and informative talk on gun control. Most of the teachers I talked to were quite impressed with the Game Commission's interest in education.

July 10—We have been doing a lot of night patrol lately. Some people are supposedly killing deer at night and selling them somewhere in New York State. We have only enough information to know it is occurring for sure and have put in a lot of fruitless nights trying to catch the guilty parties. Even if we do catch them—and that's a big if—it will probably be for only one or two deer, which is only a drop in the bucket compared to what they already have taken. What we really need is some hard-core information such as who, when, where, how, with what, and to whom! Until we get this information, chances of success will be minimal.

July 12—A Sullivan Township farmer called to report that someone was shooting woodchucks out of a pickup truck. Using portable radios, several deputies and I kept the area under surveillance for a few days. This evening, however, I was alone when the suspect's vehicle drove up beside an occupied building. The door on the passenger's side opened and I watched a man aim a rifle through the open window. In a moment he shot right out of the truck while it was stopped about twenty-five yards from the house. There were safety zone signs around the house. To top it off, they drove into the field. They were quite surprised to see me, and also surprised at the size of the fines involved.

July 13—This evening I picked up a road-killed bear on Route 15 near Blossburg. This is a regular bear crossing

and I can usually count on one or two bears being killed by vehicles here each year. This may be hard to believe—you'd think anyone could see a bear in the road—but nevertheless it happens.

July 14—My wife called on the radio to tell me she had just received two phone calls about a red fox bothering some residents on Pickle Hill. Deputy Stan Whittaker and I investigated. While we were talking to one of the families who called, we heard a loud raspy barking nearby. We walked into the field and by squeaking on my hand I brought the barking critter in close enough to hear it running through the grass. It seemed wild enough, and judging from the descriptions of those who saw it, it was healthy. Apparently it delighted in frightening everyone with its bark, which sounds like a hoarse scream.

July 18—While I was out of town for the weekend Deputy Whittaker and DGP Bill Lower had investigated the illegal shooting of a doe and buck near Jackson Summit. The case involved some farmers who shot the deer, two boys who were stuck holding the bag because they were goaded into disposing of the deer by the farmers, and more than a dozen reluctant witnesses. Bill and Stan didn't have time to finish the investigation, so today, assisted by Land Manager Dave Brown and DGP Frank Bernstein, we began the tedious job of interviewing witnesses and running down leads. By nightfall we had pretty well pieced together a story of what happened. But we only had a highly circumstantial case against the chief suspects.

July 19—On my way back up to Jackson Summit to continue yesterday's investigation, my wife radioed that another violation had just occurred near Covington. A group of young hunters shot at a woodchuck in a safety zone. They were only a few yards from one house and another house was in the line of fire. Luckily, some folks got their car's license number and we managed to catch the violators.

After I finished there I met Deputy Whittaker and we interviewed one of the suspects in yesterday's deer case. By the time we finished, we had the complete story of what happened and a good case against the persons involved. The defendants had trucked the carcasses off the farm, offered meat to several people around the countryside, and involved a group of teenagers. Tomorrow I'll file charges and the case will be resolved in court.

July 20—One of my deputies had delivered a live trap to a person in Mansfield who was having problems with raccoons raiding his garbage. He caught and removed one raccoon, but now his neighbors are up in arms because it was a mother and everyone is afraid the little ones will starve. When I checked into the situation I found that the young raccoons were more than half grown and probably weaned. All the neighbors had food set out for them so I doubt that they will go hungry. My main hope now is that they will stay wild.

July 23—Stan Whittaker and I investigated another complaint about hunters shooting right out of their car at woodchucks. This happened near Mainesburg but the witnesses didn't get a license number. You would be surprised how many red Fords there are in even a limited area!

July 26—I met with the County Communications Officer this afternoon to talk about improving my county radio. Many DGP's have purchased county police radios for their vehicles. This is a tremendous help in our law enforcement program. My radio is getting old so I'll have to find some way of replacing it. Through the county radio system I have contact with all the local and county law enforcement people, state police, fire, ambulance, and even my neighboring New York Conservation Officer. In addition, they have operators on duty twenty-four hours a day, seven days a week, and that is a comfort in this business.

In Memoriam

James A. Brown

1911-1977

Chief, Div. of Law Enforcement
Retired 1973; 38 years service

Olga Lapietra

1905-1978

Domestic Worker
Retired 1967; 24 years service

R. Dewey Long

1898-1978

Clerk III, Harrisburg
Retired 1966; 27 years service

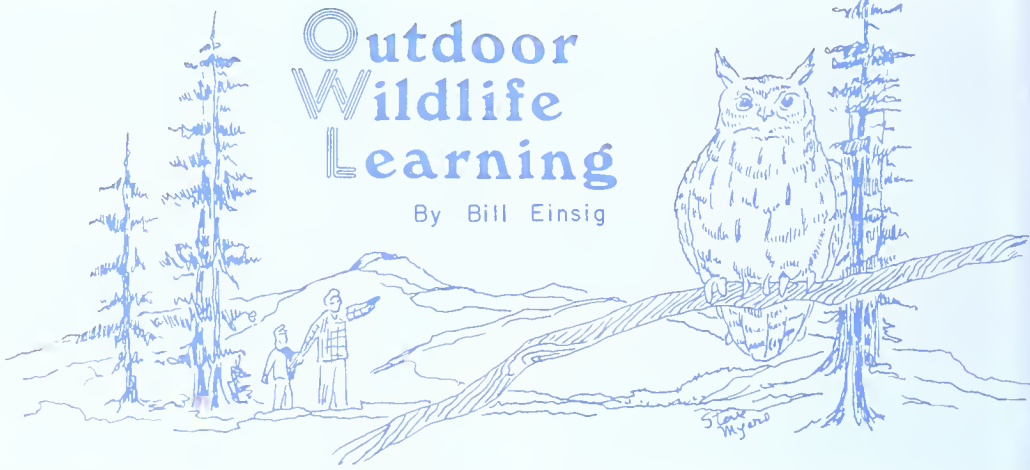
Ray H. Morningstar

1911-1978

Supervisor, Northcentral Division
Retired 1973; 37 years service

Outdoor Wildlife Learning

By Bill Einsig



The success of any animal or plant species is dependent upon that species' ability to cope with the environment in which it finds itself. This ability is not a conscious effort, nor is it an effort of individuals. Rather, the effort—if that is the best term—is reckoned by the breeding success of each generation. Successful parents yield a successful species.

Charles Darwin's theory of natural selection has been loosely described as "survival of the fittest" and that phrase has been misinterpreted to mean that the meanest dude will be the most successful. That's not true. The organisms that are most "fit" are simply those that are most successful at breeding and rearing young within the restrictions placed upon them by the environment.

Therefore, the wildlife species that we have today represent some of the most successful species of all time because they have been able to accommodate to—or avoid—environmental factors operating against them and continue to produce young for the next generation. In fact, every species of plant and animal is highly adapted to cope with its environment. And so the idea of adaptation of species is basic to an understanding of wildlife populations and their behavior.

When textbooks talk about adaptation, invariably examples will include the mimicry of the viceroy butterfly, the cryptic coloration of the snowshoe hare, and the adaptive inability of the dinosaurs. The viceroy bears a striking resemblance to the distasteful monarch which would-be predators ignore—most of the time. The snowshoe's change of coat theoretically makes him less visible to predators in the snows of winter. However, despite such protective coloration, enough are captured by well-adapted predators to maintain predator populations as well.

The dinosaurs represent a truly interest-

ing example of adaptation. Their inability to adjust to probable ecological change some sixty million years ago led to a close of the Age of Reptiles when these monsters ruled the earth. In terms of size and brute strength, the dinosaurs hold a special place in the history of the animal kingdom, yet their extinction was a result of some environmental change to which they could not adapt.

It's ironic, however, that we should use them as such an example, for they were successful and were the dominant animal life forms for perhaps 180 million years. Man is an upstart by comparison—a whippersnapper of a mere million years or so. Only time will tell which was most successful.

Rather than concentrate solely on such obvious examples of adaptation as the viceroy and snowshoe, it might be beneficial to look at every existing species as a *system* of subtle adaptations that have allowed that organism to survive to the day.

And, while we're at it, let's study animals that are close to us—parts of our lives—rather than some jungle orchid that looks like a female insect or a rare fish that does weird tricks to catch his food. Those things are interesting, sure, but so are the more subtle tricks of the woodcock, the cottontail, and the common deer mouse, if we take the time to understand them.

Adaptations might be outstanding or subtle. The great horned owl is "well adapted," we say, because of his powerful feet and jaws, silent flight, facial discs and binocular vision. But what about his coloration, his heart structure and his nocturnal behavior? In fact, is there anything about this bird that is *not* an adaptation to his successful lifestyle? No—and we could say the same for every other organism alive today.

In modern language, we can say the

every animal, every plant, is doing its own thing in its own way and therein lies the beauty and fascination of nature study and love for the outdoors.

"Bird 'N' Worms" is an activity from the *Project Learning Tree* Elementary Guide sponsored by the American Forest Institute. It is intended for youngsters in grades 3-6 and goes something like this:

After a discussion of the terms "camouflage" and "protective coloration," students are given pipe cleaners of various colors: green, brown, red, blue. Each pipe cleaner is cut into three equal pieces and twisted into spiral "worms." Finally, a known number of these worms are scattered over a section of lawn, parking lot or bare ground.

Now, each student assumes the role of a worm-eating bird: robin, thrush, meadow lark, flicker. On signal, and one at a time, the students "fly" out over the area and capture the first "worm" they spy. On their return, the "birds" align the worms in the order captured on some plain background such as white cloth or paper.

After all have had at least one flight, examine the sequence of colored worms taken. Look for patterns and ask for possible explanations. What is the relationship between real worms' coloration and their usual habitat? What are some other animals in our area that rely on protective colors?

PLT includes an interesting variation to this activity in which students are asked to predict the colors captured before the flight and then compare their predictions with the results. This could be a good example of experimental bias where the results are influenced by the predicted outcome because some youngsters would not capture the first worm to catch their eye, but instead would look for some favorite color.

"Adaptation" is a similar activity used by the National Audubon Society staff at their outstanding ecology workshop in Greenwich, Conn. However, this lesson can be easily modified for any grade level and can be used to project hypothetical population shifts due to selective adaptations.

You'll need a large piece (one square yard) of brightly colored printed fabric and punched paper dots—fifty each of ten different colors in separate containers. Motivated dots can be made by coloring white paper on both sides before punching. To begin the activity, scatter 100 dots (ten of each color) over the spread cloth. Once again, students pretend they are a flock of hungry birds overlooking a field (fabric) full of delicious foods (paper dots).

Part A—One person picks up the first

dot he sees and puts it into an empty jar. He does this a total of ten times, each time picking only the first he sees and placing it into the jar. It's important that he breaks eye contact with the field after each pick.

Now, examine the ten dots in the jar. Which colors were picked? Why? Which colors were not picked? Why? Is there an advantage to being a certain color if you are an edible paper dot? What if some of the easy-to-find dots tasted bad or could sting or bite? Could bright colors be advantageous to them? (Be sure the ten dots are scattered back onto the cloth before doing Part B.)

Part B—This part of the activity neatly illustrates what population changes might occur over a period of time when some members of a species are better adapted than others. Your field should once again contain 100 dots—ten each of ten colors. Ask five hungry birds from your flock to pick up dots, one at a time, until each has captured fifteen and all are holding them in their hands. These seventy-five dots should now be returned to their appropriate containers.

Next, carefully shake the remaining 25 dots from the cloth onto a white sheet of paper. Count the number of each color and record these as the survivors of generation #1.

These survivors now "reproduce." For each surviving dot, add an additional three dots of the same color and scatter them onto the fabric field. (For example, if there had been four red dots in the twenty-five, there should be sixteen red dots now on the field.) After this reproduction there should be 100 dots on the fabric again.

Repeat this process at least two more times: pick 75 dots (one at a time!), count the number of each surviving color, record and reproduce.

What population shifts begin to show? Is there still an equal number of all colors in generations #2 and #3? Are some colors better adapted to the environment (colored background) than others? What would happen if the environment suddenly changed? Would the same colors be favored if a different color and pattern were used as a background?

What would happen if a new "mutant" color were introduced? How successful would it be? If successful, how would it affect the "native" species? What other parallels can be drawn between this simulation and real populations?

Both of these activities can be modified to illustrate related principles and to apply to various age groups and ability levels. If you have an idea, pass it along to OWL.



Chuck Fergus

THERE EXISTS a beauty of utility, a patina laid down by use and age. It's a silent and confident beauty, different—you can't really call it better—from the raw, salty beauty of newness or birth.

Think of a duck decoy, cracked and bleached by sun, wind, and waves. Shot holes stipple one side, and the ballast is worn smooth. This is the patina of use.

Think of a black dog, a retriever. Its muzzle is gray, its eyes clouded. Patches of fur are worn away where its hips and shoulders rub against the floor when it lies down. This is a patina of age.

Think of a man. His scalp, pink through close-cut hair, is marred with pale scars. The weather has left its indelible mark on his hands, neck, and face. The face is open, its features rough; it is artless, and it is art. This is the patina of life.

The decoy, I own; the dog and the man live only in my imagination.

I bought the decoy, a redhead, from an old woodcarver whose shop stood on the sandy edge of the road that runs down North Carolina's Outer Banks. The carver sat on a stool, his knife making the final cuts on some kind of shorebird—it looked to be a dunlin or a knot. He said the decoy had been made around 1900 by a man named Levi Perry. Levi—he pronounced it "levee"—hailed from Kitty Hawk and hunted the bays, sounds, and saltwater

inlets sheltered by the barrier islands the Outer Banks. The old man told me to smell the base of the decoy. I did, and caught a whiff of sea air and the clean scent of cedar.

These days, the redhead sits on a shelf by my fireplace. As decoys go, it's no work of art. Four rusty spikes hold the head to the body, and the paint, what's left of it, looks as if it was slapped on in a hurry. Still, there are concessions to form: the head has a neat taper, the bill is complete with hook tip, and old Levi clearly caught the jaunty, head-back conformation of a redhead.

At the turn of the century, a decoy didn't have to be perfect. The Outer Banks were wintering grounds for tremendous flocks of ducks and geese—perhaps the greatest concentrations the world has ever seen—and all that was necessary was to set out a battery of decoys, crouch in the floating coffin-shaped box, and wait for the birds.

The decoy is scraped, chipped, raked by shot . . . a patina that pulls me back 75 years. Back to a shoreline sinewy man named Levi Perry; a barrel-chested Labrador retriever; gulls' clouds boiling out of Albemarle Sound and the vast, glistening reaches of bay and marsh and ocean and sky, dotted with waterfowl.

Market Hunter?

Was Perry a market hunter? Likely—most able-bodied Outer Bankers were back then, and the simple utility of his decoy, plus its hard use, pointed that direction.

I picture him poling to his batteries before dawn, a breeze off the mainland bringing him scents of brackish water and tidal plain soil. The Lab would be quivering, ears cocked, tawny eyes searching the gloom for birds. I picture Levi Perry at first light, looking out on the great rafts of canvasbacks and goldeneyes and scaup, which he drifted, in the night, around his batteries.

Did he hear the quiet talking of ducks across the water, the rumble of batteries opening up down the length of the Sound? Did he shoot as the sun



emerged out of the Atlantic? Did he dip the barrel of his shotgun in the water to cool it? Did he ever just stop to watch the wheeling redheads, the ragged geese, and the swift-flying buff-breasted heads, and did the sound of their wings fill him with humility and wonder at the man, a man, had been set down in this place, at this time?

And did he pick up his battered pump gun and shoot again—because it was the only thing he knew to do?

I don't know. But it's all there. It's written on the decoy.

Tried and true equipment develops a patina all its own. A friend of mine hunts with a fine shotgun, the barrels of which are scratched and silvery because he uses them as a flail to roust pheasants out of briar patches and mulberry rose thickets. To him, a gun is no more than a lethal extension of his body. Its beauty—and his own as well, I expect—lies in simple effectiveness.

A canoe picks up a patina on its underside, a rough signature of dents and scrapes constantly rewritten by the rocks and snags of every whitewater it travels. And the water, slicking under the bow, spiraling down in little vortices with each paddle stroke, adds its own invisible coating.

Old boots, saddle scabbards, snowshoes, knives, weatherbeaten hats—all carry marks that give them a warmth, an aura, almost a life of their own.

Land, too, can develop a patina.

My eye picks it up in colors, the play of light, or the way trees, brush, grass, or crops hug a contour. Sometimes I detect a patina with other senses: smelling the metallic scent of new-plowed furrows may do it, or hearing the hum of water in its spring run, or feeling frozen earth crumble beneath my boots. Or the impulses may sneak up and catch me unaware, so that suddenly I feel the land worn, yet vibrant and full of life, and myself a part of it.

I often get this feeling in a cover hunt. There, goldenrod and witchgrass twine up through the tines of a rusting harrow, and apple trees stand bent and broken. Rabbits find shelter beneath blackberry canes, and dense patches of wild carrot hide the gaudy-coated ringnecks. Down by the creek—where the slow water has made oxbow islands and dead ends and backwaters—I soak my boots trying to flush out the drab, long-beaked woodcock which drop into this hospitable setting on their southerly migration. And the place has this aura of people here and gone. Of land embraced and sweated over and loved and hated and finally abandoned, left to nature and a lone hunter who wanders among the new crops of catbirds, sumac, and rabbits.

Late winter is a good time to recognize patinas in the ridge-and-valley region where I live. The land is stripped of foliage, reduced to its



essence. Colors are muted but telling. Yellow cornstubble; off-white snow patches on cropped, tan hills; gray and brown woodlots; and a backdrop of blue mountains chalked with snow. Often the sky is gray, but the colors come up well, revealing a patina of use, richness, the way the land has been molded by its inhabitants, and a sense of how the land has molded the people in return.

Folks around here tend to be private and a bit aloof. It's as if the mountains are great blue fences separating neighbors and establishing identities. If you live in Brush Valley, for instance, you consider yourself completely and undeniably different from someone living north across the ridge in Sugar Valley, or over the south mountain in Penns Valley. Still, they say good fences make good neighbors, and behind the stolid, minding-my-own-business fronts of many ridge-and-valley Pennsylvanians lie warmth and friendliness.

The same underlying warmth is apparent in portraits painted by Andrew Wyeth, who lives in Chadds Ford in rural Chester County. The faces of Wyeth subjects—their strong features, the set of their mouths, their simple, frank eyes—tell stories truer than truth. Each painting, each face, is as whole as a well-crafted chapter of fiction.

Also—and this surprises and pleases me—Wyeth's landscapes and still lifes are as intense as his portraits. This artist, like few others I've seen, captures the essence of his subject, be it clapboard house or sidehill or old woman or young bull or milk can or barn. He captures this essence and in some mysterious way gets across the roles that trials, joys, weather, years,

life, or death have played in its distillation. He paints patinas.

The hands of Wyeth's people are good. I'm reminded of "Chester County," a watercolor of an old man in a chair, leaning forward with fingers knotted together. Light shines on big knuckles, thick nails, and rough skin. The painting is a profile; you see one eye obliquely, and in this case it is the hands, not the eyes, that open the window on the old man's soul.

Hands pick up patinas quickly. They become callused, chapped, and stained with soil. Woods work causes this, as do farm chores, and handling animals. I do outdoor activities like canoe tripping where the hands are constantly in and out of water, exposed to sun and wind and the honest work of portaging, tent pitching, and firewood gathering. One string of days spent pheasant hunting through greenbriar and blackberry tangles, gunning grouse in thornapple country.

The longer you do these, the deeper and more ingrained the patinas become—both physical and mental.

I once backpacked with two friends in Wyoming's Wind River Range. Slides of our trip show us crossing glaciers, climbing through alpine meadows, and standing dwarfed under mountains and deep blue skies. Even none of the slides brings home the experience so vividly as the memory of what my hands looked like the day we left the mountains.

Their backs, dotted with mosquito bites, had burnt red under the sun and constant wind. My knuckles were cracked and bleeding. My fingertips were raw, the nails broken from grasping at handholds in the granite walls.

But more meaningful than this external patina—this set of scrapes and scars that showed where my body had been—was an internal patina. A change in mind and soul, a tempering of will and intellect, a cumulative seasoning of spirit. We had traveled the wilderness which was itself covered with a patina of solitude. We had been free. Our spirits had risen above the river of triviality that can dominate life.

My hands would heal. But the other patina—part of me, always building—know will never fade.

bow hunting. . . .

Clothes Can Count

By Keith Schuyler

Photos from the Author

CLOTHES, LIKE tackle and equipment, can and do play an important part in archery hunting. But because effectiveness with the bow requires getting close to big game animals such as deer, archers' clothes assume much more importance than those for other outdoor sports.

The heat of summer may not be conducive to a discussion on clothing. We think more in terms of how little we can get by with and still ward off insects and overdose of sunshine. Nevertheless, we can also get uncomfortably warm in October, as well as icy cold in December and January.

As with tackle and equipment, clothes have improved over the years. The need for a camouflage effect has had a major influence in the development of outerwear. And this has been to the good.

Early in the contemporary era of bow hunting, we paid little attention to what we wore as long as we were comfortable. Most simply donned whatever proved adequate for any sort of gun hunting. Because early October can be quite warm, we just tried to get by with winter layers.

But we discovered we simply couldn't compete with the deer's highly developed sense of sight. True, by remaining motionless, we could get the animals to come close, but any movement would draw their attention and they would usually take off. Or if they continually looked our way, they would quickly identify us. The very act of drawing a bow is also sufficient to draw attention.

Perhaps it was a carryover from World War II that brought camouflage to the fore as an answer to the problem of getting close enough to a deer for an



JOHN UHLER'S camouflage suit was bought large enough to accommodate several layers of insulated clothing beneath—a good idea for fall or winter hunting.

effective shot. A lot of surplus clothing was available at Army-Navy stores. It didn't take bow hunters long to catch on. Deer never did.

Clothing manufacturers also caught on and began to make camouflage suits



to fit the special needs of bow hunters. Extra pockets, more roomy pockets, full-length and two-way zippers, rain resistant material, and even a reinforced cloth leg pocket for a bow rest was installed. Not only did the garment provide the camouflage needed, but it also provided utility for carrying all the extras that archers consider necessary to hunting.

I would certainly recommend one of these camouflage suits for bow hunting. Some prefer a two-piece suit so the jacket can be worn alone. There are times when this may be advisable, particularly when driving is planned. Heavier trousers may be better where the going is tough through briar patches and heavy undergrowth. In such areas, not much of the lower trunk is visible anyway. Choice of color is also a matter of individual preference. Mottled green may be preferable for eastern woodlands, particularly in the early part of the season. However, brown and yellow may be the choice for western hunting or the latter part of the season when the leaves have changed and most have fallen. Red works out well for me.

One thing to keep in mind is that the suit should be large enough to accommodate additional garments underneath. This may make it a bit sloppy for warm weather use, but that's better than having to squeeze inside it after putting on insulated underwear, a heavy shirt, perhaps a sweater, a jacket and a heavy pair of trousers. One handy feature to look for when purchasing a camouflage suit is false pocket slits on the sides. These enable you to reach



into undergarments for items such as a wallet or car keys that you may not want to trust to your camouflage pockets. Some suits come with buttons, but my personal preference is for zippers all the way. Buttons can catch on strings, and they have a tendency to be lost under the rough use that any hunting clothing receives.

An item which deserves more than passing attention is headgear. Hunters tend to develop a personal attachment for hats which may or may not contribute properly to their total hunting attire. My personal preference is for what was once a wool tam-o-shanter purchased on a caribou hunting trip in Quebec. It was the only thing available and the weather had turned cold. Repeated drenchings and washing have shrunk the wool tam to be a small size. I probably should discard it, but it has a certain sentimental attachment. Anyway, it matches the red camouflage suit I usually wear.

Headgear is an individual choice, but it should not conflict too much with your other clothing. Hats of all styles are now available in camouflage. If your hair is dark, you may prefer to wear nothing, which was my preference for many years. When the weather is cold, headgear becomes more important. Medical men tell

STRAIGHT
FROM THE BOWSTRING

FOOTGEAR, far left, is the least visible part of archer's attire, but probably the most important, for without comfortable boots no hunter can function. Hats come in many styles and materials. Broad-brimmed model is practical because it shades eyes and keeps off rain. Brim is rolled at side to make bow handling easy. Right, Tink Nathan dons knee-high plastic snake guards when his hunting takes him into rattler country. These give excellent protection against snakes—and peace of mind even when none is seen.

much body heat is lost through the head if there is no covering. Consequently, for cold weather it might be well to choose something which will actually keep your head warm as well as keep the hair out of your eyes on windy days.

When it comes to footwear, the primary emphasis should be on comfort. The cardinal rule is to make certain that whatever you plan to wear has been properly tested. Boots should certainly be worn around the house or to work or awhile until they are properly broken in and you are certain they can withstand the rigors of a long hike. Color is not too important since the feet are the least visible part of your body. The one exception would be sneakers which you might wish to wear in the early season. If you can't find a dark pair, get out the spray can and cover white ones with your favorite color. Years ago I was caught in a snowstorm wearing sneakers!)

Variety of Footwear

There is a variety of choices in footwear. Those who prefer sneakers should have strong ankles and stay out of snake country. Those who opt for rubber should be aware that their feet will be damp in warm weather, whether or not they get into water. Rubber simply will not breathe and this is its greatest disadvantage. Even in cold weather feet perspire, and the dampness is a great drawback if it becomes necessary to stand for long periods of time. My overall preference is for leather. Even if your feet do become wet, you can walk the water out of



leather shoes. Of course, you do not want leather soles. In addition to being noisy, they will have you sliding all over the country on dry leaves.

It's well in choosing footwear to look at a deer's hoof. It is neither brittle nor soft. It enables the animal to run easily over very steep rock faces, yet the deer can move through noisy undergrowth with the stealth of a cat.

The tendency sometimes is to simply load up with enough clothes to keep out the cold when the weather warrants it. However, careful selection can avoid the bulk which might impede movement, including drawing the bow. Obviously, a good place to start is with underwear. Excellent thermal garments which hold body heat are available. A light shirt of cotton or other material which will not scratch or chafe the neck is important as an undergarment. Then you may be able to get by with an insulated jacket next to your camouflage attire. A good camouflage suit is of close-knit material which will act as a windbreaker. Some rather expensive



LARRY LASHINSKI, of Mount Carmel, feels camouflage helped him bag this 9-point, 144-lb. Columbia County buck during the second week of the 1977 season. Most bow hunters believe camouflage aids their chances.

but practical camouflage suits have quilted insulation. The only drawback to these, aside from considerable bulkiness, is in the fact that they are too warm for the early months of bow hunting.

Trousers leave numerous choices, and personal comfort is the only consideration if they are to be worn under a camouflage suit. One pair, if warm enough, is preferable to two as it will provide more freedom of movement than a double layer of cloth.

And then there are the extras.

Grease and cream paint are available commercially to camouflage bare skin, but head nets serve the same purpose. Although greasepaint comes off easily, some may prefer not to have this semi-permanent application—particularly if you plan to stop at a restaurant for lunch, or if you have only a few hours before work. Those who go all out for camouflage sometimes substitute burnt cork, which is a bit tougher to remove than greasepaint or a head net.

Those who wish to hide their hands have the same options, except that light gloves may be substituted for complete coverage.

A rather novel protection against poisonous reptiles came to light a few years ago when Tink Nathan came up with a pair of plastic shields which protect the legs from the ankle to the knee. These are efficient, although they may be a bit noisy where undergrowth is thick.

Of course, camouflage should be extended to bows, arrows and quivers.

One important consideration for the hunter who anticipates wearing the same suit for all seasons is how it might affect his shooting. It is important to practice with clothing that might be bulky or a bit sloppy, depending upon the weather. An outer suit large enough to accommodate heavy undergarments may hang loose enough in warm weather that an arm guard is necessary to prevent string interference. Or, if heavy clothing is to be worn underneath the suit, an arm guard may again be required to confine this bulk so that it doesn't catch the string. If cloth bow limb covers are to be used, they should certainly be in place for pre-season practice.

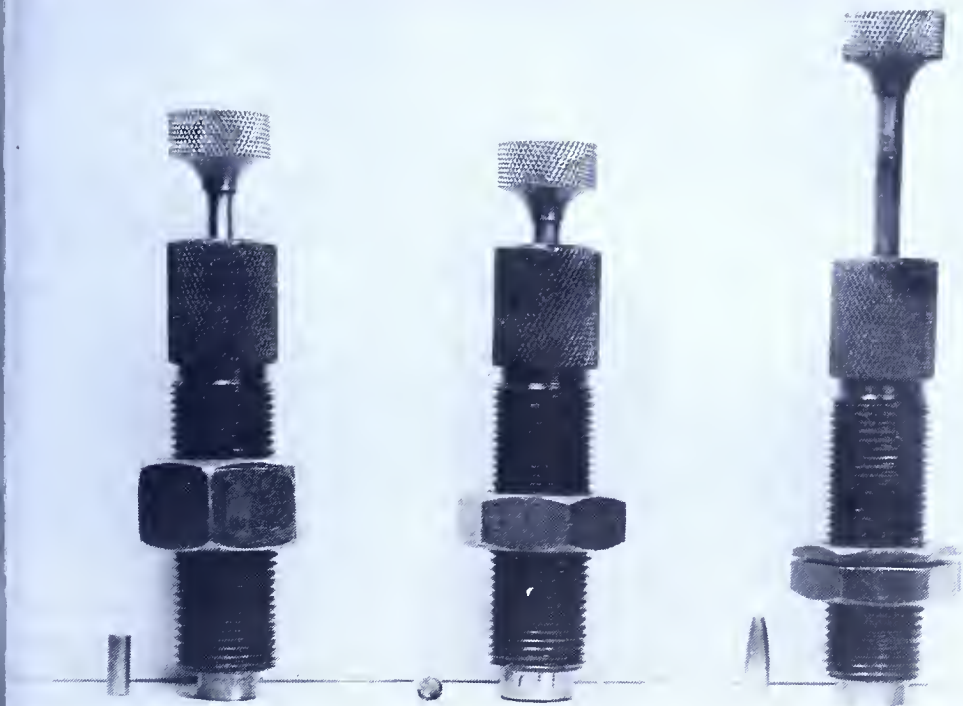
When properly attired and camouflaged for deer hunting, you may not win any beauty contests. However, experience has taught me that you cannot overdo the camouflage effect as long as it doesn't interfere with your shooting.

Real Believer

One real believer in full camouflage is Lawrence Lashinski, of Mount Carmel, who downed a 9-point buck last season that weighed 144½ pounds field dressed. He wears full camouflage, including camouflage cream on his hands and face. He even makes sure his wristwatch doesn't show. He credits some of his success last season with my column on "Placement" (October, 1977), since he hunts from a tree stand.

That about sums it up. Inclusion of tackle to be camouflaged under the heading *clothes* points up how much a part of the bow hunter this tackle is.

You and I must be able to get close, move without being detected, and get off a good shot. We dare not be shivering with cold, have sweat in our eyes, or make a sound. Proper clothes can count.



CORBIN SWAGING DIES used to make bullets for recent varmint shooting. From left, core swaging, core seating, and point forming dies.

Home-Swaged Bullets

By Don Lewis

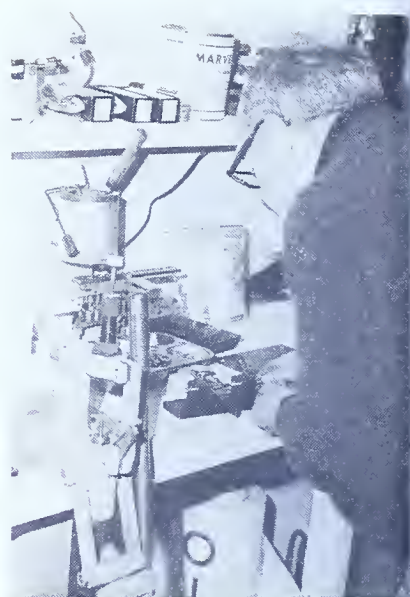
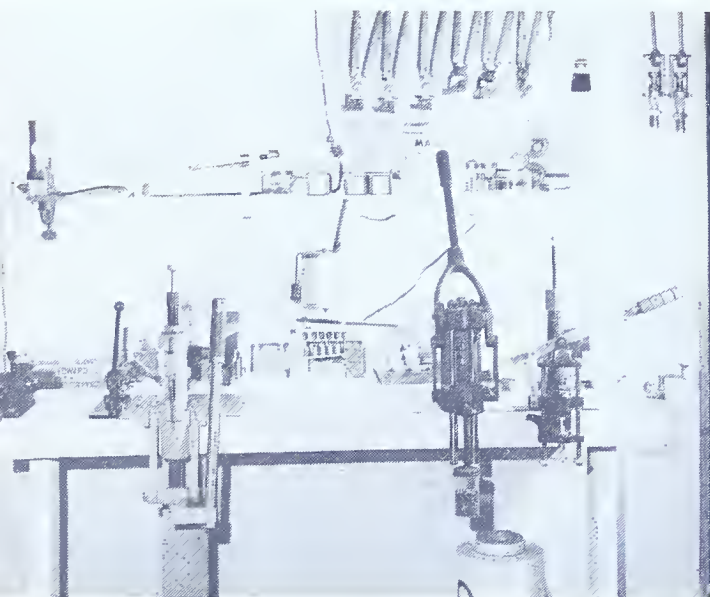
Photos by Helen Lewis

TIME HAS A way of confusing the years, but it had to be around 1960 when a reloading acquaintance invited me to become his partner in a venture that would assure us all the 224-caliber bullets we could use, and make us some money to boot. At that time, I was operating a small custom reloading shop, and practically every dollar that came in was spent immediately for components. A box of 224 bullets cost only about half what it does now, but the idea of getting them for next to nothing was still appealing.

At our first meeting at my friend's shop, I learned we could buy a set of custom made 224 bullet-making dies for approximately \$200. It was also possible to get a forming die that would swage 224 bullet jackets from fired 22

rimfire long rifle cases. With literally thousands of fired cases available, plus the fact my friend had over 600 pounds of pure lead on hand, with plenty more available, I was convinced the future held nothing except success. I can't recall all the details, but my job would be to crank out 224 jackets by the thousands. I made the long drive home filled with excitement and expectation.

A call to my partner a month later brought assurances the dies would soon be ready. In the meantime, some test bullets made with similar dies would soon be shipped for us to test. The call left me in a state of joy, and I secretly agreed to furnish several chuck hunting buddies, who shot a lot of 22 competition, all the 224 slugs they could fire. Since I would be rolling in 224 slugs,



TOOLS ON casting and swaging bench, from left: Herter's core cutter, Belding & Mull press (discontinued model), RCBS Rock-chucker press with Corbin point forming die, Lee Production Pot with four-cavity Corbin mould under spout, lead ingots, Bonanza Co-Ax press, Saeco lubricator-sizer, C&H cannellure tool. Above right, Lewis spins bullet made with Corbin dies to check runout. Far right, Bill Nichols records results of testfiring these bullets in Remington 40XB-BR bench rifle.

their price would be far less than factory, provided they came up with a few thousand fired 22 cases.

When two weeks passed without hearing from my business partner, I called. I was shocked to learn his range tests had produced groups running out beyond three inches. But the diemaker knew what the problem was, he told me, and would send a second shipment in a few days. On the 4th of July, I made a third call which confirmed my suspicions that not everything was going according to plan. My partner just couldn't get a definite answer from the diemaker. When the second shipment arrived, the results were even worse, and when the diemaker blamed it on poor shooting, our bullet making dream died quicker than a 22 Hornet can burn 10 grains of 2400.

To this day, I don't know the entire story, and since I'm the remaining survivor of the group, I can only speculate the machinist couldn't make suitably precise dies. Like most handloaders of

that era, I thought a bullet was just a hunk of lead wrapped in a copper jacket, and I guess in reality, that's all it is. Perhaps it's the simple looking appearance of the jacketed bullet that is misleading. The truth is, a bullet doesn't seem complicated to make, but turning out a set of dies requires highly technical and very complicated machining and finishing.

Since that first unfortunate experience, I've gained a deeper insight into the world of bullet swaging. I had the good fortune of interviewing Clarence Detsch of St. Marys who is internationally known for his benchrest bullets. Detsch bullets are fired in competition around the world. When I spent some time with him a few years back, I learned something about the complexities of benchrest bullet making. Detsch builds his own equipment and holds tolerances to tenths of thousandths.

It's easy to understand there can be only a few specialists such as Detsch, and that the average handloader can't hope to make bullets with mass-





duced equipment that would equal the benchrest bullet. In fact, a feeling prevails even among handloaders that it takes very expensive die sets and technical knowledge to get a bullet that is accurate. There is some truth to this, and I carried the same feeling until I met a varmint shooter who claimed he was making good hunting bullets with a moderately priced die set. Suddenly, the excitement that had run through my veins years before hit me like a hammer.

I finally gave in and contacted Corbin Manufacturing and Supply, Inc., of Phoenix, Oregon. I obtained a test set of Corbin 224 bullet making dies, along with a supply of 224 jackets and a four-avity mould for pouring cores. When everything arrived, I studied the relatively simple looking dies with a feeling of challenge and apprehension. My mind kept going back to the earlier years, and I have to admit I approached bullet making with seeds of doubt firmly entrenched in my mind.

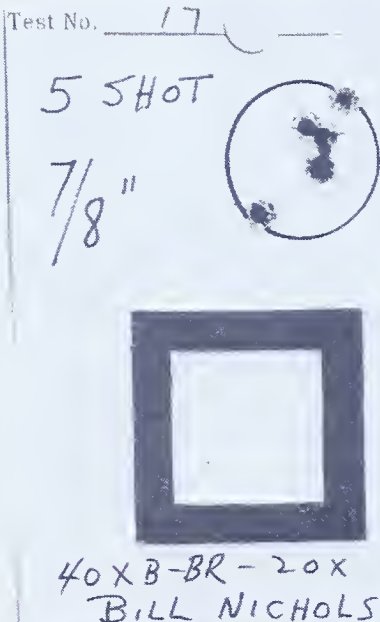
The first task is to cut or mould cores. I positioned the Corbin core mould under the pouring spout of a Lee Production Pot and by trial and error adjusted the core length until it weighed out at 42 grains. Once this was accomplished, it was just a matter of time until I had developed a rhythm that had four perfectly formed cores

coming from the mould every thirty seconds.

After the core is poured, it has to be swaged to final weight in a core die with a bottom punch that fits in the shellholder slot in the press's ram. Its purpose is to preform the lead before it is put in the copper jacket. The die is adjusted to keep a fixed distance between the top punch inside the die and the bottom punch in the ram when the ram reaches maximum height. The distance between the two punches will be the length of the swaged core, and it is necessary for the press handle to break over center when the ram reaches full height. If this is not possible with a given press, some type of block must be made to stop the ram's travel so all cores will be precisely the same length.

Pressure in Die

A great deal of pressure is built up in the die as the lead is expanded against the walls of the die by the two punches. Several tiny bleed holes allow excess lead to escape. It is mandatory to cast or cut cores several grains heavier than the desired weight of the finished core; this assures there will be sufficient lead to fill the die cavity, producing a core that is pre-shaped and free of air pockets. The excess lead is bled off to prevent damage to the die.



THIS 5-SHOT group fired at 100 yards with 55-gr. bullets made in Corbin dies shows they give accuracy well suited to varmint hunting needs.

Once the core is swaged, it is seated in the copper jacket. The seating die is fitted with a top punch and there is a bottom punch in the press ram. Seating swages the lead to completely fill out the jacket, eliminating any air pockets or other irregularities in the core. Any tiny pocket of air trapped inside the jacket could play havoc with accuracy. When the lead is swaged in the jacket, the jacket swells out to roughly .2236, or about a half-thousandth of an inch below the finished bullet's diameter of .224.

My first problem came during the core seating process. I wasn't applying sufficient pressure, and I ended up with a bullet that miked out less than .224. The final point-forming operation does expand the bullet somewhat, but I was too far below .224 to expect that. I corrected the problem by using more pressure during the core seating. The jacket with the core seated then measured about .2236, and the finished bullet was right on the nose at .224.

The last step in bullet making is point forming, and here is where the begin-

ner can get involved in some frustrating problems. The point forming die is more complex than the other two, since it is the shape of the bullet ogive. At the very tip of the nose cavity is a small but extremely tough ejection pin punch which presses on the tip or nose of the bullet to eject it. The pin is spring loaded but it has no part in forming the bullet. Its purpose is to push the finished bullet from the die when the external knockout punch is tapped lightly.

The troublemaker is the stuck bullet and I have to admit that until I caught on to the knack of forming the point correctly, I had dozens of stuck bullets. Fortunately, all were clinging to the ejection pin, and pushing down on the knockout punch let me grasp the base of the bullet with my fingers. Most of the time I could gently free it, but on some occasions I had to use a small pair of pliers. When the die was adjusted properly, I could tap the bullet free with the heel of my hand.

You might think the bullet swaging must have the strength of Hercules and should use a reloading press built out of truck frame steel. This is not necessarily so, though the average C-type reloading press is weak in several ways. It's possible to spring it under heavy pressure, its ram punch may be too small, and its leverage system is inadequate. Bullet swaging just takes too much effort with the non-compound leverage press. Best results will be had with units such as the RCB, Rock Chucker, Pacific Multi-Power, C&H Champion or Kodiak Bear.

These presses utilize an O-type frame to prevent springing and have a compound leverage design in the handle. They offer a lot of pressure without unusual force from the operator. I tried a conventional heavy duty C-type press, but it took too much effort and there was nothing smooth about my operation. In fact, I ruined a bottom punch simply because I couldn't feel what I was doing. Many presses are suitable for bullet swaging but it's advisable to check with the supplier of the dies to see which presses and bottom punches will fit.

I haven't gone into detail on each

ep of bullet making. I do want to
ress that making bullets suitable for
armint shooting is not strictly for the
achinist or just a few gifted hand-
loaders. Constant consistency to a ten-
ousandth of an inch may sound ex-
tremely difficult to attain, and this
one could deter many reloaders from
ying it. However, the equipment is
uilt to deliver such precision when
ed properly, and I fully believe most
eteran handloaders could become
ullet swagers without blinking an eye.
I won't offer the time worn reason of
iving a bundle of money to justify
ullet swaging. This used to be the
ain thrust of almost every handload-
g article. Bullet swaging doesn't save
at much money over the factory
ullet unless the home-swager goes
to mass production. There's another
pect that is far more significant, and it
oils right down to becoming more in-
olved, plus the fact it is possible to
ave special bullets in both design and
eight. The latter is important only if
e bullet swager is convinced he has a
eed for something other than what the
est of us call conventional.

My curiosity was aroused when I
arned it now was possible to make a
ood varmint hunting bullet. However,
must differentiate between the hunt-
g bullet and the match type used for
ompetition. The benchrest bullet has
be nearly perfect, and it is also fired
y an expert from a rifle designed
tally for accuracy. Believe me, there
a significant difference between
uck hunting and benchrest competi-
on, and the average varmint rifle
on't perform much better with the
atch bullet than it does with the fac-
ry job.

When I set up to make 224 bullets, it
as not with the intent to prove which
e set was superior, and I didn't for a
cond entertain the notion my results
ould compare with bullets made in
ndmade custom die sets. I ap-
oached the project with the single
urpose of determining if the average
ndloader using inexpensive factory
es could make a respectable varmint
hunting slug.

I'm still early in the bullet making
ame, but I'm convinced it's possible

for any serious handloader to make a
bullet that will meet his requirements
even at long ranges. I can attest to the
fact there will be plenty of times of frus-
tration, but when the first shining cop-
per clad bullet is held between the
thumb and index finger, all else will be
forgotten.

My late mother, Sara Lewis, writer
of many newspaper articles, used to
say, "The proof of the pudding is in the
eating," and I knew the proof of my
bullet making venture would be in the
shooting. Along that line, I have both
bad news and good news. My first un-
dersize bullets were really unpredict-
able, some groups being no better than
2½ inches at 100 yards. But the bullets
made after I corrected the core seating
problem gave far more impressive
results. I started getting groups around
1¼ inches from my Ruger No. 1 single
shot 22-250. This made me feel I was
getting somewhere, even though the
Ruger was a consistent ¾-inch or less
rifle with B/R bullets.

Bill Nichols, a good friend and close
hunting companion from De Young,
shot the last three 5-shot groups in a
series of twenty. Bill used a Remington
40XB-BR 222 with 22 grains of
Hodgdon H322 ignited by a Remington
7½ primer. This load pushed the 55-
grain Corbin slug out the muzzle just
short of 3000 fps. Two groups stayed
below the inch mark, and the other slid
out to 1¼ inches.

Varmint Bullets

That's nothing to write home about,
especially when a B/R rifle is used, but
it did prove I had made bullets accurate
enough for the varmint hunter.

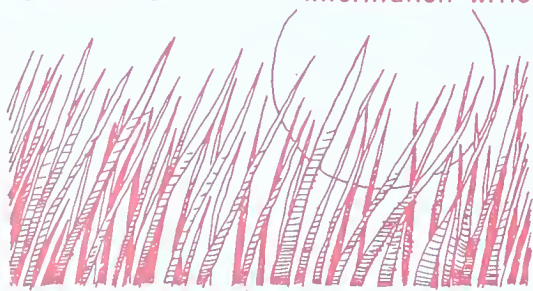
As final proof, Bill and I ran a
number of factory hunting bullets on a
bullet spinner. On average, the factory
bullet had a runout of between .0004
and .0007, and the home-swaged slugs
averaged around .0006.

My next outing for chucks will be
with the homemade bullet. I'm con-
vinced I have nothing to fear in the
performance column, and I hope more
reloading buffs will join ranks. The
home-swaged bullet has opened
another door in the fascinating world of
shooting. . . .

In the wind

toni williams

information writer



An outbreak of avian cholera which killed over 10,000 waterfowl, mostly sea ducks, off the coast of Virginia is apparently over. Game wardens and biologists patrolled the beaches for dead birds to keep the disease from spreading to major breeding areas in the north. The bacterial disease crops up from time to time among many species of birds, and may cause large dieoffs.

Things are getting tougher than ever for the modern version of the "market hunter" in Michigan. A recently passed bill increases penalties for illegal sale of game. A first offense makes one liable for maximum imprisonment of 90 days and fine of \$250. But things really get rough on the second offense, now a felony.

Kirtland's warbler—an endangered species which rarely turns up in Pennsylvania—has a restricted breeding range. It nests only in jack pine stands of a certain age. In recent years, it's nested only in Michigan. But last summer one was seen in a jack pine forest on an Ontario military base, from which it had been absent for almost forty years.

Great blue herons in Oregon are adapting as well as possible to man's changes in their environment. Damming a river killed almost all the trees along its banks, site of a heron rookery. Herons hung on in dead trees, but finally even those were inadequate. So the herons began raising families on channel markers. Nests didn't obstruct navigation lights, so everything appears to be okay for now.

The southern hemisphere's marine otter—more closely related to our river otter than our sea otter—will get additional protection. Already on the Endangered Species List, its recent inclusion under the Marine Mammal Protection Act means it's due for research attention and further protection.

Outdoorsmen will be pleased to know that the 1978 Appalachian Trail Bill is now law. In 1968, the AT and the Pacific Crest Trail became National Scenic Trails, but still were not secure. In several places, the AT passes through private land which could be developed in ways that would damage or destroy the Trail. The newly signed bill, among other things, provides money to purchase some sections of the Trail and a modest buffer zone on each side.

Director Lynn Greenwalt of the U.S. Fish and Wildlife Service recently reiterated his belief that "consumptive use of wildlife, when properly managed, has no adverse effect" on fish, wildlife or habitat. The report of a task force on National Wildlife Refuges put that in doubt; it recommends quitting some forms of hunting. Greenwalt disagrees, and has put himself in a potentially delicate position by publicly and emphatically saying so.

A study prepared for the Environmental Protection Agency reveals that pollution control expenditures have created half a million new jobs in the U.S. Forty billion dollars were spent on pollution control in 1977; the Council on Environmental Quality estimates that over half of this would have been spent even without recent environmental legislation.

A falconer who was a bit too anxious for his birds has been fined \$8,000, given a one-year suspended sentence, and placed on probation for five years for possessing endangered birds without a permit. He heard of some peregrine nestlings in the Yukon, flew up and tried to ship them back. Alert airline officials reported a crate too large for its stated contents to a Fish and Wildlife Service agent. He found the four nestlings in a hidden compartment, arrested the erring falconer, and had the birds returned to their nest at a cost of \$5,500.

IT'S THE LAW



NOT ALL GAME LAW VIOLATIONS ARE INTENTIONAL. AS A SERVICE TO COMMONWEALTH SPORTSMEN, GAME NEWS, IN COOPERATION WITH THE DIVISION OF LAW ENFORCEMENT, TAKES THIS MEANS TO BRIEFLY CLARIFY SOME OF THE MOST FREQUENTLY MISUNDERSTOOD OR LEAST KNOWN GAME LAWS.

QUESTION —

MUST I HAVE MY DEER TAG
ON THE HIDE IF I SELL IT?

ANSWER —

THE DEER TAG MUST REMAIN
ATTACHED TO THE HEAD OF
THE DEER AND WOULD NOT
BE WITH THE HIDE WHEN
SOLD.



QUESTION —

CAN A HUNTER DIG OUT GROUNDHOGS (WOODCHUCKS)
IN A FARMER'S FIELD?

ANSWER —

ONLY IF HE HAS SPECIFIC ADVANCE PERMISSION FROM
THE FARMER, AND IMMEDIATELY REPLACES THE EARTH
AND LEVELS IT OFF.





The woodchuck is truly a harbinger of spring, even though in the minds of many he is commonly considered a forecaster of winter weather. A true hibernator, he is one of the earliest to feel the impending spring and urgings to roam. Generally thought of as a resident of farmlands, he nevertheless often inhabits woodlands, as his name implies. He is always alert and usually sees you long before you see him. Only in early spring before the forest floor is carpeted with herbaceous growth can he be easily spotted by the discerning eye. Heavy concentrations of chucks seldom occur in a wooded environment. Frequently his den is under an old stump or big rock in a field or fencerow. His natural camouflage blends well with the landscape. Seldom does he wander far from his protection. Besides being an interesting and intriguing animal, this is one rodent that often provides benefits for other animals—abandoned burrows and dens become “homes for wildlife.”

—Stan Forbes, Chief
Division of Information & Education

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COVER PAINTING BY NED SMITH

Cordgrass wilts in waves under a jungle-warm, moist breeze. Richly redolent mudflats ooze under a thin film of saltwater. Noisy gray-and-white speckled birds wade on gawky bright-yellow legs, searching for dinner. It's late summer, and migrating yellowlegs are appearing on Pennsylvania's tidal mudflats, lakeshores and pool edges. Our cover shows the greater yellowlegs, *Totanus melanoleucus* (genus name for the Italian *totano*, or moor-hen). The lesser yellowlegs looks about the same, but smaller. A few yellowlegs winter at Tinicum, near Philadelphia.

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Why Love A Bat?

OVER SEVERAL months, I've been pulling together information for articles on endangered species legislation. There's lots of hoopla about endangered animals. Drinking glasses, notecards, posters, T-shirts—scads of items feature these species. But not *all* of the species. They depict wolves, cougars, eagles, whales and other lovable "critters", but several groups are conspicuously absent: fish, bats, and most invertebrates. In fact, everything but birds and mammals gets short shrift. I'm sure that's because the more closely related an animal is to Man, the easier it is for men to become emotionally involved with it. And emotional involvement helps to sell T-shirts.

But just considering mammals—the class including Man—the absence of bats is conspicuous. They aren't latecomers; two U.S. species were on the original Endangered Species List. Another has been added since, and two more are being considered. Bats are in serious trouble worldwide.

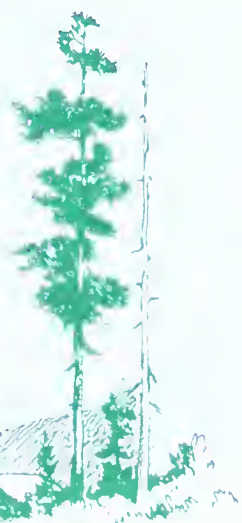
I've just returned from a speleological convention in Texas, and a couple of things I saw there are worth sharing.

Granted, I'm biased toward bats. Since I saw my first red bat in a freshman zoology course, I've been intrigued by the only mammals to fly, with their fascinating and sometimes bizarre adaptations to darkness, to hibernation, and to light. I'm not alone. At the convention, one of the most popular T-shirts featured a flying bat and the motto, "Bats Need Friends", and people were buying bat belt buckles, necklaces, books, etc. left and right. The difference is, cavers encounter bats frequently on their home grounds, so there's built-in interest which is stoked by numerous articles on bats in caving publications.

We were near Bracken Cave, watching the evening flight of millions of bats, when someone picked up a small armadillo to show the northern cavers who'd never seen one. He reminded us this lowly mammal became the center of great interest recently when it was discovered it was the only species besides man known to contract leprosy—and therefore valuable for leprosy research. Were the armadillo endangered, a few years ago many would have thought, "Great!" The little buggers dig holes which farmers don't appreciate, and they're just not too appealing. But all of a sudden they're found to be potentially precious for relieving earthbreaking human misery.

We already know bats are voracious insect-eaters. The little brown bat, probably the most common species in Pennsylvania, eats almost one-third its weight in insects in a half-hour. (Could you do that? Teenage boys are exempted from the question.) Research into their echolocation skills has aided radar technology; knowing how the hibernating females store live sperm for several months may solve human sperm-storage problems. How many more unknown values do bats possess?

What I'm getting at is that we may be doing ourselves—and the animals involved—harm by ignoring less lovable species. If we try to set aside our human-centered prejudices and learn something about endangered creepies and slimies, we may find they're just as fascinating, *and just as valuable*, as the eagle and the cougar.—Toni Williams



The Endangered Species

By Toni L. Williams GAME NEWS Staff Writer



lystique



LET'S JUMP on the endangered species bandwagon, shall we? We'll gallop off in high spirits, hearts beating in time with rousing drumbeats and oom-pah-pahs.

Yes, Pennsylvania has joined the host of states with their very own endangered species projects, in cooperation with the federal folks. Isn't that great? Now we can save all those noble, lonely animals!

If you think that sounds a little cynical, you're right.

"Endangered" seems to be the magic word these days. Say the magic word and you can sell T-shirts, note cards, books, pencil cases, jewelry—probably even underarm deodorant or toilet bowl cleaner. Once again, our emotions are being exploited for the buck.

I don't know about you, but I'm so sick and tired of The Magic Word that I feel like dredging and filling the next turkey who uses it.

And *that* from one who enthusiastically supported the 1973 Act which made it all probable, who wanted to do graduate research on an endangered bat species—and who dreams of watching a wild-hatched peregrine stooping over Harrisburg.

The concept is fine. There are biological and philosophical pros and cons about saving species headed for extinction. After all, extinction is a natural process. Just as individual organisms all die—some after a life of hours or days, others after a century or more—so must species come to an end. The fossil record is full of species which no longer exist.

The trouble right now is that man has accelerated the rate of extinction. The end point—if we don't do ourselves in meanwhile—is a dull, empty world of animals which adapt easily to Man, such as rats, pigeons, starlings, and raccoons. Actually, before that point ar-

rived, things would have fallen apart. A lesson we learn each time a species disappears or increases without check is that everything is tied together. We are ignorant of the subtler aspects of ecosystem dynamics. All our sophisticated knowledge just suffices to convince us that there is one whale of a lot we don't know yet, and may never understand. An ecosystem is unimaginably complex, and you just can't manipulate any part of it without affecting a host of other parts, whether you're aware of it immediately or not. The loss of one species will cause changes; the loss of more and more species will cause more and more changes, some of which could be disastrous.

There are a few direct effects of such losses which we can think of. You lose the bald eagle, you lose some national spirit. You lose the red-cockaded woodpecker, you lose a little bit of beauty. With each species lost, you lose the potential for a lot of products or understanding useful to man. And you lose part of the diversity which is the hallmark and prerequisite of a healthy, flexible ecosystem—of which, never let us forget, *Man is a part*.

As I said, the concept is fine. What I object to is the camp meeting atmosphere, the commercial ripoffs, the dibs and dabs of information that inevitably suck the public into thinking they know enough about it (since, after all, they *care*) that all that's left is to scream loud enough and "the government" will have to knuckle under and make it all better.

So if you're expecting to read an article which will bring tears to your manly eyes over the plight of the lonely salt marsh harvest mouse or the keening humpback whale, you might as well flip back right now to page 44 where you started.

What I want to talk about is Pennsylvania's new cooperative agreement on endangered species—how it happened, what it does and what it doesn't mean to you. I want to write about it calmly and reasonably, on the faith that you're intelligent and sensible enough to want the sober facts behind all the tears, sighs and rallying cries.

Even among persons professionally involved with wildlife, there's plenty misunderstanding about the Endangered Species Act of 1973. Some (and was among these) think there's a more clout behind it than there really is; others are unaware of things their employer might do which are illegal under the Act. There are lots of *ifs*, *buts*, and *excepts* which make things messy.

When Mother Nature doesn't complicate things, Uncle Sam obliges. A

Pennsylvania's Endangered Birds and Mammals



Indiana bat—resident, status unknown.

Bald eagle—resident, a few breeding pairs.

Peregrine falcon—was resident, disappeared, a few reintroduced.

Kirtland's warbler—never known as breeding resident; pass through occasionally during migration.

Delmarva fox squirrel—never common here; disappeared long ago, now only in Maryland.

ency politics fills in the gaps. The phrase "endangered species" began to creep stealthily into our ears in 1966 with the passage of the federal Endangered Species Preservation Act, which covered only native fish and wildlife threatened with extinction; 1969's Endangered Species Conservation Act broadened the coverage both geographically and taxonomically, authorized more money for habitat, and prohibited buying or selling any animal taken in violation of any laws. About the same time, the Department of the Interior published the "Red Book," a black paperback book with a red cover which listed endangered and rare species and gave information about distribution and status of each if known.

The Endangered Species Act of 1973 further broadens the types of organisms covered, including insects and plants, and describes the process by which a species is officially declared Endangered. It also makes "taking" of such species a federal offense. ("Take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to do any of those things.) A second article will explain what you and the government and private businesses can and can't do under Federal law. The Act itself covers 21 pages of fine print, so all we have hit in GAME NEWS are the highlights.

Already Protected

Under the above acts, Pennsylvania's endangered wildlife was protected by federal agents. But it's a big state and there aren't many federal agents here. In 1974 the state legislature amended the Game Law so that the Game Commission accepted the federal ESL as its state list, with the power to add or delete any native species. Game protectors now have the responsibility for enforcing endangered species regulations in the state, which are similar to federal regulations. There are also a few related Acts which are not a part of the Game Law but which deal with endangered or threatened species. So why did they receive protection and some attention before the recent signing of the cooperative agreement.



Endangered and threatened species usually benefit from the Commission's habitat management, since one of the most common reasons for declining populations is loss of habitat. Two bald eagle pairs, for example, nest on Game Lands in Crawford County which are managed for waterfowl, and another pair nests nearby. The Commission has supported the reintroduction of peregrines into the state, and has cooperated with both the peregrine and Delmarva fox squirrel recovery teams.

Beyond these few direct actions and the indirect actions of Game Lands acquisition and management, Pennsylvania had no program for managing endangered and threatened species, except for the enforcement of laws. No species have yet been added to the federal list; too little was known about animals which, by definition, are rare and which usually exist only in a few small areas. Partial federal funding would make it possible to hire enough personnel or to put scientists on contract to study the distribution and status of potentially endangered species in the state.

The Commission would use this information to update the Endangered and Threatened Species List. Pennsylvanians will have a chance to comment on the proposed list, which will be published in the Pennsylvania Bulletin. That's basically the way species are added to or dropped from the federal

list: after consulting with biologists (and with state officials if resident species are involved), the Secretary of the Interior publishes his recommendations in the Federal Register. After a period for public comment, he makes a final decision. However, if someone presents good evidence that a species' listing should be changed, the Secretary may set up a review. It was by this process that the grey wolf recently was reclassified from endangered to threatened in Minnesota.

Contrary to what some people believe, a species doesn't receive protection just by being rare. It has to be officially placed on the List of Endangered Species to receive protection under the 1973 Act.

You might wonder why it took Pennsylvania so long to set up a cooperative agreement, when the original 1973 Act provided for such agreements.

A lot of jurisdictional problems had to be ironed out. The federal government wanted to be sure that between the Fish and the Game Commissions, we had the authority to do everything we'd have to do to live up to our part of the deal. Among other things, they had to be sure we could acquire the critical habitat either by outright purchase or by other means short of purchase. And they wanted to know if we really could manage "the entire resident animal kingdom." After several letters and legal opinions, it was decided that we did, indeed, have the authority we'd need, and on that score at least would be eligible for a cooperative agreement.

The next stumbling block was our unique position as the only state with

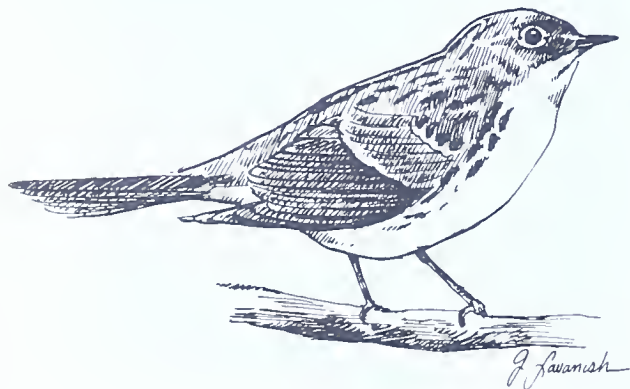
totally separate, independent agencies for fish and game—or fish/amphibians/reptiles and birds/mammals, to be more accurate. Many states have combined department of sport fish and game; others have separate departments, but both fall under the same board, commission or director. Only Pennsylvania are there two entirely separate commissions with separate funding. In the past, the federal government had signed an agreement with only one agency per state; in some cases, that agency was made the legal agent for the other department. Our lawyers felt, however, that neither Commission here had the authority to act as agent for the other. Finally, after lengthy correspondence, the feds accepted that position and agreed to sign two separate cooperative agreements, one with the Fish Commission and one with the Game Commission.

I'm still not sure where that leaves insects and plants.

Project Plans

Then we had to submit a proposed program plan. That was accepted recently and the agreement signed in April. But those were still only the first hurdles. The *program* had been approved; now the *project* plans had to be approved. Those are the specific plans including timetables, budget figures and personnel listings. There are four sections, each with one to four jobs. I write, the project proposal has been discussed with federal wildlifers, who suggested some amendments, but the proposal hasn't yet been formally approved, though it may be by the time this article reaches you. When it's approved, we'll be ready to move.

Well, almost. First we'll need some money. The federal government will provide \$2 for every \$1 we put up—but where are all those one dollars coming from? At the moment, we have a slight surplus in the Game Fund over the amount budgeted. But even without adding new programs or expanding existing ones, we'll soon be in the hole again because of inflation, which hits the Commission just as hard as it hits everyone else. Should we cut down on the number of Hunter Education



Pennsylvania's Proposed Endangered Species Project

A—1. Administer and coordinate program.

B—1. Review scientific and popular literature on threatened or endangered species.

2. Determine current status of selected wildlife by reviewing literature, consulting with scientists and field officers, and doing field surveys; from this, update state Threatened or Endangered Species List.

3. Determine habitat requirements and designate areas of critical or essential habitat.

4. Develop management plans and make recommendations about additional surveys and inventories.

C—1. Provide intensified training sessions for Commission personnel on threatened or endangered species identification and law enforcement.

2. Inform and educate the public about the need for endangered species conservation and the Game Commission program.

D—1. Inspect businesses offering wildlife or wildlife by-products for sale. Inspect taxidermists, fur dealers, game breeders, falconers. Patrol and inspect airports, freight terminals, etc. for wildlife or wildlife parts.

2. Enforce federal and state laws to protect the bald eagle.

3. Enforce federal and state laws to protect the peregrine falcon.

asses we hold? Let the Game Lands deteriorate (which would certainly affect nongame and probably at least one endangered species)? Cut down on the number of game protectors (who already cover about 400 square miles each)? Stop lending films or publishing GAME NEWS or working with schoolteachers?

There really aren't many ways of saving money that wouldn't end up defeating our purposes. Although some expenditures might seem wasteful to you, there are good reasons for everything we spend money on. And the program that seems trivial to you, to your neighbor may be most important. Many of the ways we spend money are mandated by law or by Commonwealth regulations, which, despite the fact that we are not supported by taxes, we must still obey.

Here's where the recently passed bill allowing the Game Commission to sell patches, decals, etc., to fund nongame management might come in. It probably won't cover all endangered or threatened species, as some are classified as game or furbearing animals even though they can't be legally hunted or trapped. But it will include most. However, it will take time to develop a really good nongame funding program and encourage enough public support to make it work. Several other

states have tried it and failed. Others have met with only modest success. So Pennsylvania will be going slow, to make sure that the money spent to start the nongame funding program isn't wasted. Persons from our administration, management, and information and education divisions are working closely with Audubon Society officials and others to plan a program which the public will support with their hard-earned wages.

In a sense, the future of the endangered species program depends on whether nonhunters are willing to put their money where their slogans have been. Hunters—many of whom are also deeply interested in nongame and endangered species of wildlife as well as game species—will be supporting part of the program through license money fees which pay our salaries and which will cover some of our operating expenses. And we'll probably find, as have other states, that hunters are the first and most enthusiastic buyers of nongame stamps, decals, etc.

It will be interesting to see whether Pennsylvania is one of the few states in which nonhunters will voluntarily put their money on the line for the wildlife they profess to love.

Coming soon: Endangered species laws and how they affect you.



Take @ Rest

By George H. Block III

THE BUCK WAS standing on the hillside 300 yards away when the hunter saw him. He'd tracked the buck for two hours, and now the big whitetail stood in the open watching his backtrail. The hunter stood at the edge of the trees as he brought his rifle to his shoulder, sighted and squeezed off a shot. Large white tail waving goodbye, the buck departed for safer grounds as the rifle roared twice more. Disgustedly, the hunter sat on the log in front of him and was suddenly very tired. He was a good hunter, but the shot had been long even for the 7mm Magnum he was carrying. Deep down he knew he wouldn't see that deer again today.

Jerry, a hunter I know well, still doesn't understand why some people hit those long shots and he doesn't. His equipment is good and is properly sighted in. He's a fine hunter, locating many good bucks over the years. But still he misses when the range is a few hundred yards or more. The reason is simple. When advised to use some

form of support instead of shooting offhand, he laughs. Everyone knows deer are shot offhand, he says, and taking a rest is an admission of inability to shoot well.

It might seem to some people that deer are taken only to prove one's shooting ability; others know that the hunter has a responsibility to kill as cleanly as possible. If taking a rest leads to more certain shot placement, then a rest it should be.

I remember well a 5-point buck shot while using a fallen outhouse for a rest. Although that buck was killed by an 85-grain 243 Sierra backed by a heavy load of 4350, that old building did its share to help. A 200-yard shot like that one can be questionable offhand, but using the building for a rest made it easy.

The hunter admittedly will seldom find such a rest in the woods, but all too often he completely ignores something suitable that is available. Had I tried that shot offhand, that one-horned 5-point buck would probably still be run-

ing. No one shoots as well standing on his hind legs as he does sitting or lying down, but a rest is even better. The anatomy of the human body is just not designed for offhand shooting. The arms tire, our requirement for oxygen causes movements, and even the beating of one's heart can be a problem. Put these things in a bag and add the excitement of a hunt, and you have the perfect formula for a miss.

Tied to Tradition

Oftentimes the hunter is tied to tradition. We all have mental pictures of the old-time hunter stalking through the woods with his trusty Winchester lever action, snapping well-aimed shots at fleeting whitetails. Times have changed, but not the ideas. Maybe the lever action 38-40 has been replaced by a 760 pump, but many hunters still think in terms of offhand rapid fire shots. This is a shame when a very large percentage of deer hunters spend their days on stands.

I have seen it many times—the hunter posting by a tree with his rapid fire rifle, firing offhand at a deer. I can never understand why he doesn't lean against that tree and get a steadier shot. The forest is full of natural rests—trees, their limbs and stumps, fenceposts, etc.

Recent years have seen a far greater range of the flat shooting high velocity calibers. Take for example the large calibers of the fine 7mm Magnum. This trend extends the potential range of the hunter to possibly 400 yards, but only if he uses the rifle's accuracy to its fullest. The Magnum fired offhand doesn't have much more range than a 30-30 fired similarly. No matter what you shoot, the human element can be the limiting factor. From the offhand position, no one can shoot any rifle accurately at 300 yards under hunting conditions (at least no one I know). The trained target shooter using specialized equipment may plunk shots into the black at 300 yards, but this is an entirely different ballgame.

The woodchuck hunter long ago took the rifle rest to heart. This form of hunting teaches the importance of a solid rest. If the groundhog hunter

were to take 400-yard shots offhand, the chuck population would be sky-high. I don't want woodchucks digging holes in my yard, closet or sugarbowl, so I use the steadiest position possible.

Yet in my opinion the long-range deer hunter needs a rest far more than the chuck hunter. Summer means light clothing and comfort. When a chuck appears, the hunter calmly gets into shooting position and fires. The deer hunter, while shooting at a larger target, faces a multitude of problems. His clothes are bulky. The cold weather usually causes him to shiver. Winter winds can be much stronger than a gentle summer breeze. His rifle is often of a larger, harder-kicking, less-accurate caliber. And the excitement of a deer hunt is not the least of his problems. Suppose the chuck hunter misses. So what, there's always another one. But a 10-point buck which might disappear at any moment can be a jolt to the nervous system. Your mind just doesn't say, "So what, there's always another one!" Considering everything,

MANY NATURAL RESTS can be found in the woods, and the smart hunter chooses a stand that will make one readily available when he sees game. A rest makes precise shooting easy.



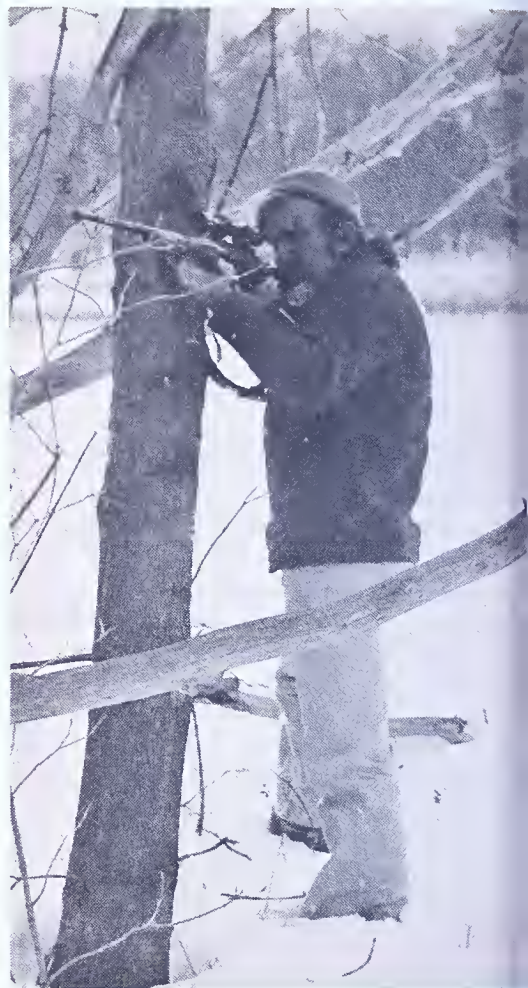
I think I can hit more long shots on the much smaller chuck than on the largest buck. When it's deer beyond 100 yards (and sometimes closer), give me a rest.

I remember well one very large buck I encountered a few years ago. Ed Haley and I were hunting near my home and had decided to take a lunch break. Between home and our hunting location we had to cross two large fields, and as usually happens we weren't expecting to see a deer in either one. The fields are both on hillsides with a creek bottom dividing them. As we stepped out of the cover into the first field, I saw movement on the fence line between the fields. Dropping to a prone position, I cranked the Leupold scope on my 270 up to 9x and looked at one of the largest bucks I've ever seen. He was standing broadside, head turned toward us, ears thrown out. His antlers still extended a good five or six inches beyond each ear. Give the ears fourteen inches tip to tip, and that meant this buck had a twenty-four-inch rack.

Ed was in position too as I fired. We seemed to work our bolts and shoot in slow motion as the buck ran over the hill untouched. We missed more times than I'll admit in print, but that buck had been one heck of a long distance from us. I still feel bad over missing that trophy, but he taught me one lesson: never to go deer hunting without a rest. There wasn't anything in that big open field to rest our rifles on, and that cost us dearly (no pun intended).

Leaning Against Tree

Last season found me standing in a fence line facing an open field. It had been a good day with Ed getting a fine 8-point buck at 8 o'clock in the morning. Now it was nearly 3 p.m., but I wasn't worried. This was only the first day and it was good just being out hunting. I was daydreaming when a shot snapped me out of it and brought me alert. Immediately I spotted movement about 125 yards to my left just inside heavy cover. Leaning against a tree, I placed my left hand on a fencepost and put the scope on the deer. What greeted me was one of the largest-



TREE PROVIDES rest as well as breaking hunter's outline while on watch. Do not place rifle against tree, but rather put hand that holds gun against it.

bodied bucks I've ever seen. It was easy to hold the crosshairs on his chest and squeeze off the shot. That 8-point buck dressed over 190 pounds, and that fencepost made getting him easy. We had both taken our bucks from fenceposts. Two bucks, two shots, two successful hunters. Thanks to rests.

Two years ago my wife Eileen and I were still without bucks on Thursday of the first week. We didn't hunt until afternoon and when I went out after lunch she was busy and said she'd be back in an hour or so. I headed straight for a stand which had produced bucks the last couple of years. The crossing is a natural, a high meadow bordered on each side by heavy cover. In the center of the field a slight dip provides a natural funnel, and any person or deer following the slope of the hill just

naturally crosses here. The only problem with this stand is the shooting distance involved—275 yards is the closest normal crossing, and some deer cross at ranges extending to 500 yards. When the hunter tries to move closer, he cuts tremendously into his field of vision. This is a rifleman's stand and the hunter better know his rifle.

The day was warm and soon I was lying beside my equipment (binoculars, rifle on bipod), jacket off, at peace with the world. I had been enjoying the scenery for perhaps a half-hour when a doe stepped into the field. Soon she was followed by three others and a fine buck. I rolled over and the rifle was rock steady as I placed the crosshairs on his shoulder. The 110-grain 270 bullet seemed to travel the 300 yards in nothing flat and I had my deer for the season. While some people think long shots are chancy, I'd rather have a shot like this than one where the deer is bounding through brush at 40 yards.

As I dressed my buck, Eileen howled up. The usual joking went on as she offered to help me drag him out. I told her to sit on the stand and I'd take him out myself and then come back. Returning at 4 o'clock I sat down to give her moral support and maybe just to tub it in a bit. Perhaps twenty minutes later another buck trotted out in the field and stood over the viscera I'd removed from my deer. Again the silence was broken by the sharp report of a 270 as my wife downed her buck.

The hunt was a success and much of that success was made possible because

of a small piece of equipment we'd had the foresight to carry with us. That was a small bipod which is often carried by chuck hunters. Just ask my wife how handy that bipod is when visibility isn't the greatest and a deer is facing you from around 300 yards. I learned long ago the larger tripods and other rests were not for me on a deer hunt. Their size is such that in most cases they are left at home, and no piece of equipment is worth a hoot lying unused. This small model I carry is useful only on prone shots, but is so small it can be carried in my hip pocket. I'd rather go hunting without my binoculars than minus this useful little rest. Between Eileen and me, four out of our last six bucks have been shot from one.

Calm and Steady

How many hunters have suffered from a bad case of the shakes when aiming at deer? The crosshairs waver over everything within 20 yards of where the hunter wishes to place his shot. He strains to hold the rifle steady, sweat beads on his brow, and it soon becomes almost a traumatic experience for him. Usually this ends with the trigger being jerked as the crosshairs fly by the target. It's really wonderful how calm a steady rifle can make you. Just looking through a scope on a rested rifle steadies the hunter and renews his confidence. I am not the world's greatest shot, but a handy stump can make me look like one. It puts venison in the freezer. So believe me, if you want cleaner kills, use a rest.

Game Recipes Requested

We are planning to publish a paperback book of game recipes. Over the years we have received numerous recipes from GAME NEWS subscribers, and our mail indicates many readers are interested in this subject. Doubtless you have favorite recipes of your own. If you have a recipe for any game bird or animal which our family particularly likes, we would be glad to see it. No payment can be made for such material, but if we use your recipe we will give you credit as the contributor. Recipes should be typed or carefully printed on one side of the paper only, following the conventional format for such items. Submit to: RECIPES, Pennsylvania GAME NEWS, P.O. Box 1567, Harrisburg, Pa. 17120.



DRAWING ABOVE SHOWS how and where to pluck rump feathers which can indicate sex of grouse; one dot is typical of females, two or three dots, males. See closeups on next page.

Grouse Feathers Tell Tales

By John J. Kriz

PGC Wildlife Biologist

HUNTING BUDDIES have different opinions on many topics, and one of the most common disagreements among grouse hunters concerns the sex and age of ruffed grouse. Arguments seldom get as far as hand-to-hand combat, but it would be nice to agree on that last bird that was bagged. Was it an adult female or a juvenile male? You can determine the sex with reasonable accuracy by measuring the lengths of the central tailfeathers and examining the pattern of the rump feathers. It's a little more difficult to determine age, however. The most practical way for the hunter is to check the shape of the tip on the outermost flight feathers of the wing.

By the time hunting season rolls around, the fully developed tail of a young cock grouse is longer than the tail of an old hen. To determine sex by the two central tailfeathers, they should first be plucked. If the feathers measure more than 15 centimeters

(about $5\frac{7}{8}$ inches) long, including the shaft, the grouse is most likely a male; if less than 14 centimeters (about $5\frac{7}{16}$ inches), it is probably a female. If the measurement falls between 14 and 15 centimeters, examination of the rump feathers can be helpful.

Rump feathers are found on the grouse's back near the base of the tail, but not right next to it. There is a row of feathers between the tail and the rump feathers, the upper tail coverts, which do not show the pattern you want to examine. Near the tip of the rump feathers you will notice one or more whitish spots, or "dots." If each feather has only one spot, the bird is a female. If there are two or more spots on some of these feathers, the bird is a male. Males may have some rump feathers with only one dot, so a careful examination should be made before deciding if the bird is a cock or a hen.

The rump-feather technique was announced recently by Yvon Rousell and



FEMALE—one dot.



MALE—two or three dots.

Reginald Ouellet, two Canadian biologists working in Quebec. Wildlife biologists in other parts of the grouse range have been working with the new technique, and it is currently being evaluated in Pennsylvania. Data indicate the method works well in conjunction with the tail-length technique.

Many grouse hunters believe that a bird with a broken tail band is always a female, and that one with a solid band across the entire tail is a male. This is erroneous. Almost all females will show a broken band, but many males exhibit broken bands also. Measuring the central tailfeathers and examining the rump feathers are more reliable methods of determining the sex of grouse. No method, even internal examination, is 100 percent accurate, but most of the time you are going to be right using the combined tail-rump feather technique.

To age grouse, check the tips of the outermost flight feathers. A juvenile's will be shaped differently from those on an adult's wings. The feathers on young birds develop late in the summer and are retained as part of the winter plumage; their tips are sharp and pointed. These are replaced in late

summer or early fall of the second year by feathers with a more blunt and rounded shape. Admittedly, in the process of crashing through brush in typical grouse fashion, young birds can actually wear down their pointed wing feathers, making them resemble the rounded feathers of adults. However, a trained eye can usually tell the difference between a young bird and an adult, even in January. The novice can keep available a juvenile and an adult feather from birds taken early in the season to compare with those shot later when the difference is not as easy to see.

Doesn't Fit Pattern

Just about the time you think an aging technique is almost flawless, a grouse turns up that doesn't fit the normal pattern. One common example is a bird with a short tail. This can happen if the bird was hatched very late in the year or lost its original tail, perhaps to a fox that ended up with a mouthful of feathers or by having it frozen to the ground during a sudden temperature drop after a rain or thaw. Another example is the wing-tipped bird which had the outer flight feathers shot away.



POINTED TIPS ON OUTER wing feather, far left, are from juvenile bird, while rounded tips indicate an adult. Central tailfeathers less than 14 centimeters in length, including shaft, are probably from female; those over 15 centimeters, are most likely male.

In these and other instances, other methods must be used for age and sex determination.

Other techniques have been developed for aging ruffed grouse, but they are complicated, time consuming, and sometimes require the use of accurate micrometers or calipers which are rarely available on a hunting trip.

As part of the Pennsylvania Game Commission's ongoing grouse studies, we are asking hunters for several rump feathers, both wing tips, and the two central tailfeathers from each grouse they bag. Sex and age determination, to the degree of accuracy we need, isn't as easy as I have made it sound. We are attempting to determine as precisely as possible what the grouse productivity rate is for each year.

For this and other reasons, we must be able to correctly identify all birds, including some that will fall into a questionable age category if only the wing-tip technique is used. To confirm this technique, we take various measurements of air-dried feathers from the wings and tail. Some of these measure-

ments must be accurate to one-thousandth of an inch. By using these more sophisticated methods and comparing results, a high degree of accuracy can be achieved.

It is essential that cooperators send in feathers from every grouse they take. If some individuals withhold certain materials, such as the central tailfeathers from a large bird, it can throw bias into the data.

If you are a cooperator in the Ruffed Grouse Hunting Survey, when you bag that first grouse next season, and place the asked-for parts in the envelope we provide, you will have a pretty good idea if that particular bird is a male or a female and if it is a young bird or one that had eluded you during previous years. You may finally be able to boast to your hunting companions that you actually did down the old drummer of the aspen ridge.

The author wishes to thank PGC Wildlife Biologists Lincoln Lang and Steve Liscinsky for the help they provided in preparing this article.

The Game Commission is permitted to accept donations of money or land from any person, association, corporation or firm. Contributions are tax deductible. Funds received go toward purchasing State Game Lands, which are used by hunters and non-hunters alike, and for other wildlife management uses. Persons or organizations who make such donations show their sincere interest in and support of conservation in Pennsylvania, and the Game Commission expresses its gratitude for their contributions.



CINNAMON, Len Reeves' golden retriever, was flushing and retrieving pheasants at three months.

Fun With Retrievers

By Nick Sisley

WE FLOATED THE icy Allegheny one frigid December morning, looking for late ducks that hadn't yet made it deep into Dixie for the winter. We were several miles downriver from our launch point, above a swift riffle where the water was shallow—too shallow to get back upstream with our outboard without shearing a pin. But the cattails and backwater just downstream from the riffle looked like a perfect place to set up a makeshift blind.

We beached the boat, covered it

with brush, set out a dozen oversize mallard decoys, then hid ourselves. Bill told his big black Lab, Barney, to sit on the grassy shore about ten yards behind us. He wouldn't have lasted long sitting in that ankle-deep 33-degree river water.

A flock of bluebills whistled by. They banked like they were going to swing around and take another look at our spread, then veered back down the river. The leader probably had Alabama on his mind.

A little later two greenheads and a

susie became more curious. Both Bill and I were working on them with our calls, while Barney stayed on the bank. Though he was showing his manners, the dog was quivering with anticipation. On the third pass (that's what I like about mallards, they give you long seconds, maybe even minutes, of heart-throbbing, adrenalin-producing, memory-making action before they decide one way or the other) they set their wings for the final approach, tilted the tips from side to side as they descended, compensating for the little vagaries of the wind, then down came their big orange landing gear.

Fold in Midair

At the same moment, Bill and I stood up in the cattails. One greenhead and the susie folded at our first shots, but the other greenhead was wingtipped and headed downriver. Barney was perfectly trained. He sat on the river bank like a field champion, shaking like he had palsy but waiting for Bill to give him the O.K. to fetch. Bill made sure the dog was looking at that last mallard, then I saw it fold in midair about 50 yards below the riffle.

"Back," Bill almost screamed. There was no need for his voice to put fire and desire in the dog. Seconds later Barney's head was bobbing below the riffle. Bill and I hurriedly retrieved the other two ducks from the shallow water around the decoys, before they had a chance to get into the riffle and float downstream.

After what seemed half an eternity Bill checked his watch. Ten minutes. Then it was fifteen minutes, and still no Barney. It was very cold and the river was plenty swift, but we knew the Lab was in excellent condition. Still, a man close to his dog gets to worrying about the worst at times like these.

Finally, after almost twenty minutes, we saw him—a black dot trotting up our side of the riverbank. Bill raised the binoculars he always carried around his neck. "He's got it!" If he could have jumped up and down in those heavy waders, he'd have clicked his heels. I was beaming, too, for I had trained that barrel-chested, glossy-black critter.

Consider another case. Leonard

Reeves is a Latrobe-based attorney one of the very successful ones, but poor guy in a way for he's finding less and less time for his favorite pursuit, bird hunting. After he was graduated from law school, Leonard bought his first bird dog, a Brittany. It was a good one, and for awhile Leonard had the time to devote to that pointing dog.

However, as the demands of his law practice grew, he found he didn't even have enough time to retrain his Brittany prior to the opening of each hunting season. He also found he was becoming more and more interested in waterfowl shooting, though his first love was the pheasant hunting that thrived around the brushy draws and cornfield edges of Westmoreland County, closely followed by grouse hunting on the slopes of nearby Chestnut Ridge. He began asking himself how he could find a dog that required almost no training time, that would hunt pheasants and grouse and perform satisfactorily on waterfowl plus be a close companion to his growing family.

Reeves found the answer was a retriever. He chose a golden and has since had four of them. He keeps claiming he's going to write a story about his first one, Sly. Sly's dead now, but his retrieving capabilities are sort of semi-legendary in these parts. Leonard's current old dog, Glory, though not a world-beater, flushes plenty of pheasants and grouse each season, brings back her share of ducks, acts as a watchdog around Leonard's rural home, and is the perfect family companion. His youngest dog, Cinnamon, began flushing and retrieving birds at the tender age of three months, with almost no training.

The point is, retrievers can make great bird dogs, whether they've had involved training that permits them to make those long and arduous retrieves like Barney made in the Allegheny, or they're like Cinnamon, who pleased his master at such a young age with almost no training at all.

Not every retriever takes to the uplands like Reeves' golden retrievers. While springer spaniels were born and bred to cover the uplands and flush

practically anything that smells good, the retriever's forte is just that—bringing back the bacon, whether it's on the ground or in the water. However, retrievers are simply such intelligent creatures that they're able to adapt. Many quickly learn to range in front of their masters so well that more and more upland enthusiasts are using them for pheasants, grouse, woodcock and quail. For all-around utility, retrievers are an excellent choice.

A few years ago a good friend and I were pheasant hunting in Cumberland County on opening day. We started the morning with his pointer. I had left my pointing dogs at home, having learned from experience that they were simply incapable of making the switch from woods hunting for grouse and woodcock to brushy draw and harvested cornfield hunting for cockbirds.

The pointer caused a lot of frustration that morning. Fred had been too busy prior to opening day to put the finishing touches on the dog's training. The pointer not only busted birds a couple of times, he was obstinate and tough to handle, ranging to the ends of every field we entered. Sometimes he was gone for five or ten minutes at a time. The longer he was gone, the more Fred yelled, and the madder he became.

By 11 o'clock, we had enough of that pointer. It was easy to walk back to the

pickup, for we didn't have an ounce of pheasant weighing down our game bags. My yellow Lab, Honey, was in the truck, plus Fred's black Lab, Rocky. My Lab is one of those that hunts and ranges to flush game, but not with any fervor. Rocky, a house dog, had never been hunted once, and never had any training—unless you count retrieving the occasional stick from Fred's swimming pool or farm pond.

Lot of Weight

By early afternoon we were returning to the pickup with a lot of weight dragging on our shoulders. We'd each shot two big cockbirds. There's no way you can enjoy more fun on opening day than that.

Rocky had taken to pheasant hunting like I've taken to Cheryl Tiegs. Within minutes, though he had never flushed a pheasant in his life, Rocky was ranging in front of Fred as if he'd been doing it for years. The first bird Rocky flushed was a hen, and he chased it for half a mile before giving up and returning to quartering range.

Like I said, my Lab isn't a world-beater as a pheasant dog, and Rocky certainly wiped his eye that day. Honey flushed only one rooster that we shot. Rocky flushed the other three—and fetched all four! Remember, this was a Lab with absolutely no training

LABRADOR RETRIEVERS ARE THE MOST popular retriever. This one brings back duck that was downed in shallow marsh water in northeastern Pennsylvania.





LABS ALSO WORK well in the uplands, flushing pheasants for the gun and readily retrieving them. These dogs have great noses and a good one rarely loses a cripple.

whatever. Sort of makes me wonder if all my training efforts over the seasons have been worth it, especially since I trained bird dogs professionally for several years.

Even though Rocky produced game with no training whatever, and Leonard Reeves' goldens consistently perform in a more than satisfactory manner with minimal training, I'm still convinced that some training will benefit any retriever. What are some of the things they should learn?

Experience is a key. The more you hunt a retriever, the more his performance will approach perfection. This is true whether the dog is flushing game in the uplands or fetching ducks in the marshes. A retriever can gain experience in a number of ways. The least expensive is to take him for runs in pheasant country during late summer. Weedfields are excellent places to find pheasants at this time of the year. Once a cackler flushes, a retriever can hear him and see him, usually for 50 yards or more. Let young Labs and goldens chase those pheasants; it will make them even more eager hunters.

Pigeons can be excellent and inexpensive training tools. I like to spin a pigeon dizzy, then work in with a Lab or golden, using hand signals to urge them to quarter. These dogs don't always take to this quartering training like spaniels; however, it's surprising how some Labs and goldens adapt. Carry your shotgun during these late summer or early fall training sessions. If you haven't spun the pigeon too far to sleep, the bird will flush once the dog gets the scent and forges in to pick it up.

Now comes the test of your wingshooting skill. Don't powder the pigeon at ten feet, just as he lifts off the ground. Let the retriever chase a little. Drop the bird 20 or 30 yards out. A few sessions like this will certainly put fire and desire for hunting into most retrievers.

I often plant a pigeon on the edge of a marsh or lake, then work a retriever in for the flush. It's uncanny how most such pigeons will take off over the water. Seems they know instinctively that they're safer over water. That's fine with me, because I'm hoping that's just what they do. When the pigeon is about 20 yards out, with the dog starting to swim after him, it's time to slap the trigger. Great water training, great

Preserves

Though shooting preserves are more expensive, retrievers can learn a great deal about hunting and retrieving at these places. At some preserves it is possible to hunt both ducks and upland birds. The duck shooting is plenty sporting, and the experience a retriever can gain during a few hours of this could make him a bird dog forever. Here's how they work.

The ducks are raised in a pond all summer. They get to know it as home. Prior to the opening of the preserve season, the operator takes them out for practice flights. They'll usually be taken to a release site that is not within view of the shooter's position. The birds are put into a pen that permits the release of only a few at a time, maybe only one.

During the practice flying sessions, the ducks learn where the home pond is in relation to the release pen. After

nly one or two practice flights, they now which direction to fly as soon as they're released. It's a canned procedure, but it actually produces every sporty shooting, and if you have your retriever along for a training session, he'll never know the difference. These birds, usually mallards, come speeding over the blinds as fast as any wild one ever did. Depending on whether or not friends accompany you on one of these preserve duck shoots, your retriever might get a chance to catch ten or fifteen ducks in an hour. Experiences like these help him perform to perfection once duck season is in full swing at your favorite marsh in the fall.

Retrievers can also get great training on pheasants at a shooting preserve. You know the dog is going to encounter game often, and no matter where he bumps, he'll sniff latent scent. Nothing like a good snootful of birds, a roar of wings, a seemingly escaping ball of feathers, all crystallized with a shot that snaps a big noisy bird's wing. The dog, already at full speed, just keeps running for the spot where the pheasant came down, then scurries this way and that trying to figure out the scent trail.

Then he finds what he's looking for, and for yards he prances back like a rutter with a sulky behind him, headed for the winner's circle. Experiences like this at a shooting preserve will certainly serve a retriever well once he makes the switch to wild pheasants in late October. Preserve pheasants are perfect dog-training tools, in addition to being fine off season fun in their own right.

It's imperative to keep any flushing dog within gun range, but this is seldom a problem with retrievers. They possess an overriding desire to please, so you'll seldom find one that won't

respond to a command to "hunt close." Unless they're on the trail of game, of course!

I recommend teaching a retriever what "sit" and "stay" mean. Simple obedience commands give the master a needed degree of control over the dog. The obedient dog is capable of much more in the field, and responding immediately could save his life some day.

Fetching boat fender dummies is a lot of fun, in addition to being a good way to condition a dog and give him experience at bringing something back to you. I like to introduce all dogs to gunfire at an early age, too. A 22 cap pistol at feeding time is ideal.

Summary

The important thing about training retrievers for hunting is that it can be all fun, for both the dog and the trainer. Training other dogs often involves a great deal of work and dishing out some discipline. Unless field trial performance is sought, there's little need for much formal training with retrievers. A Lab or a golden will often train itself. While I'm not suggesting readers go out and purchase a retriever under the assumption that no training at all will be called for, there's no question that these extremely intelligent canines are capable of producing good results with very little effort on the trainer's part.

Many hunters find that their jobs, homes and families take more and more of their time every year. There's less time available for such tasks as training bird dogs and many hunters simply don't have the experience or inclination to spend the many hours that pointing dogs require. If you fall into that category, or if you like to swing that shotgun on the occasional duck or goose, a retriever could be the dog best suited to your hunting style.

Today's Largest Reptiles

Crocodylians are the largest modern reptiles, and the surviving reptiles most closely related to dinosaurs.

Egged On

Ancient reptiles, not birds, produced the first shelled eggs.



IF A DEER HIGHTAILS IT after you shoot, don't automatically assume a miss. It's not unusual for fatally wounded deer to run several hundred yards. Follow up all shots.

Follow Up That Shot

By George E. Dolnack, Jr.

IT WAS toward the end of the day and the hunter had been watching the buck for what seemed like an eternity as it moved slowly down the snowy, timbered slope. He picked an opening that would afford a decent shot and the waiting game continued.

Suddenly the deer stopped. It looked downhill and cupped its ears. Someone else, out of sight, was shuffling around impatiently on stand, poking at the snow with his feet. When the deer flicked its tail nervously from side to side, the hunter eased his rifle around and put the crosshairs of his scope on the fold of skin just above the front leg. As the deer raised its tail slightly, the hunter held his breath and squeezed the trigger.

The rifle cracked and the deer bolted away from the hunter and ran downhill toward the creek. There was no time to get off a second shot and he looked wide-eyed in the direction of the fleeing animal.

"Blew it," he said, and, muttering something under his breath. A short time later he looked at his watch and then dejectedly headed back toward camp.

When the bullet struck the deer, it reacted violently and vaulted away. After a few jumps, blood stained the snow from a heart wound as it raced for cover. The bleeding stopped after the animal had traveled a short distance. Weakened by the loss of blood, the deer started to weave. It finally stag-

ered off its intended path and collapsed.

Fifteen minutes later, another hunter on his way back to camp found the dead buck. He waited awhile. When no one showed up, he dressed it out, intending to give it to the game protector. While dragging it out of the woods, he retraced its flight. The trail of blood unmistakably pointed to a mortal wound. He also found tufts of hair at the spot where the deer had been shot. As he made his way out of the woods, he puzzled over the fact that no one had taken up the wounded deer's trail.

Time and Time Again

This episode, or some variation of it, is repeated time and time again during the deer season. And right now, most deer hunters are reminiscing about last year's hunting fortunes. Some are talking about the whitetails they took home, some about the ones they hit and didn't get. Still others are bemoaning the deer they missed. Or thought they missed. Like the fellow we mentioned earlier.

While the majority of hunters follow up on their shots, some are just plain lazy, and others have so little confidence in their shooting ability that they assume they have missed unless the animal falls in its tracks the moment of the shot. If you are in this category, there is a good chance that the deer you thought you missed was tagged by another hunter or crawled off into cover to die.

Though we would all like an instant kill, the plain facts are that deer don't always go down when they are first hit. Even when they're hit hard.

Even when mortally wounded, deer may run great distances before going down for good. For example, last season my fifteen-year-old son, Steve, shot a big spike that was standing about 50 yards away. The deer's heart was completely shattered by the 170-grain handload from his 8mm. But it still fled when struck and ran over a hundred yards before dropping.

Thirteen-year-old Pete took a nice 4-point that was on the run at 50 yards. The 150-grain 30-30 hit the heart and

the deer went down immediately. However, it recovered and fell three more times before dropping for good some 80 yards from where it was shot.

You can do several things to determine if your shot has connected. When you fire at a running deer, look closely for any reaction of the animal. Did it stumble, lurch, or start limping? Did the graceful bounce turn into a clumsy jump? Or before taking off like greased lightning, did that standing deer flinch or hunch up? Sometimes these reactions are barely perceptible. Did you notice its flag? Deer when hit will frequently carry their tail at half-mast or lower.

If your deer is still on the move after your shot, go to the spot where it was standing when you fired. Look for hair, bits of bone and blood. Examine the hair closely. Coarse, dark-tipped hair says the deer is probably hit in the upper part of the body; medium-brown hair without dark tips could point to a hit in the middle; and white hair generally means a low wound.

Pay close attention to the hoof prints and look for leg drag marks. Do the tracks veer from side to side or change pace? If so, there is a good chance the deer is hit. Which direction is the deer traveling? Wounded deer are unlikely to travel uphill unless it is the only means of escape.

How long should you wait before trailing a wounded deer? This is a much-argued question that is difficult to answer, since there are many variables for each situation. Some things to consider are:

Is there snow on the ground?

Is the deer hit hard?

Are there many hunters in the area?

Is it close to dark?

Are you alone?

How well do you know the area?

Knowing where the deer is wounded will help in determining how soon you

Give

GAME NEWS

To a Friend . . .



CHECK OUT EVERY shot fired. Look for signs of hair and blood. Examine tracks for irregularity or sudden changes in direction. Often, something noted at this point will lead you to your deer and make for a successful hunt.

should take up the chase. And when pursuing a deer, don't destroy sign by walking in the animal's tracks or blood trail.

Blood can tell you much about a deer's wound. The color of blood from a shoulder or muscle shot will tend to be lighter than a hit high and behind the lungs. Bright, foam-flecked blood indicates a lung wound. And lung-shot

deer, besides bleeding profusely sometimes spray blood outward.

If an artery is severed, the trail will be marked by bright blood spurting from the wound. Liver hits are usually distinguishable by small amounts of very dark blood. Often, heart-shot deer won't bleed much, while kidney wounds generally leave a good blood trail.

Dark stains with bits of stomach content point to a gut-shot deer, which may or may not spray blood. Leg wounds are easily discernible by blood in the deer's tracks.

If there is no snow, your job will be a lot tougher. In this case, look for signs such as disturbed leaves and blood on bushes and branches along the deer's path of flight. When you find sign, tie a piece of cloth to a bush or tree at those spots to mark the deer's trail. By sighting along the marks, you can determine its course of travel. (Retrieve such markers before leaving the woods, of course.)

Hard-hit deer are weakened by loss of blood and will stagger off their intended path before dropping. The blood trail will sometimes stop before they wobble off course. If this happens, your deer should be nearby. With snow on the ground, finding it will be no problem.

If there is no snow covering, mark the point of last blood and search the area in a widening circle to locate your deer.

Remember, good hunters follow up every shot and trail every wounded deer until found. Now think back to that last shot you *blew*. Do you still think it was a miss?

Trapping Book Available

Pennsylvania Trapping and Predator Control Methods by the late Paul L. Faylor is again available. Now in its eighth revised edition, this 96-page soft-bound book contains detailed information on all phases of Pennsylvania trapping. It covers numerous sets for foxes, beavers, minks, muskrats, weasels, raccoons, skunks and opossums, tells how to make bait, tan small furs, prepare equipment, etc., lists pertinent laws and regulations, and gives data on fur harvests and natural history facts. Price, \$1 delivered, from Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120.

BEAR MANAGEMENT

An Increasing Worldwide Concern

By Jack Giles

PGC Wildlife Biologist

YOU'VE HEARD A LOT lately about the concern of Pennsylvania's wildlife managers about our bear population. But we're not the only ones who are taking a close and careful look at that impressive and important resource.

Members of the family Ursidae—the bears—inhabit most of the northern hemisphere and a small portion of the southern hemisphere (northern South America). Wildlife managers and biologists across the world are showing increasing concern for several species of bears. In some places, the problem is biologically low numbers; in other places, numbers high enough to cause overpredation. Everywhere, the problems relate to the incompatibility of bears and man or man's activities. And regardless of whether there are too many or too few bears, the long-term effect on their populations is the same.

During the week of February 17–23, 1977, the largest scientific meeting ever devoted to the single topic of bear management was assembled in Montana. Most states and provinces in North America having or anticipating bear management programs sent representatives to this historic meeting at a large convention center in the Flathead Valley. Others came from outside this continent; in all, hundreds of participants and observers from nine countries converged on the small community of Kalispell to share their knowledge and concerns.

From scientific papers covering a vast array of topics relating to several

species of bears, I have abstracted a brief status report on North American bears.

Bears have no important natural enemies, except man, and their numbers are ordinarily regulated by a relatively low reproductive rate. The universal root problem presently facing



Photo by Leonard Lee Rue, III

THREE-MONTH-OLD cub symbolizes critical factor in population dynamics: reproductive rate. It's normally low in bears.

bear populations seems to be competition from man in the form of constantly changing land-use patterns incompatible with the needs of these populations. Such effects are not unique to bears; detrimental effects of radical habitat changes are associated with many wildlife species. Historically, bear habitat has been affected rather quickly by invasion of their ranges by farming and ranching. Because individual bears need large areas to roam, they can tolerate only so much human disturbance.

The grizzly, which appears to be much less adaptable than the black bear, has been reduced to threatened status (as of 1973) south of the Canadian border. Only two remnant and disjunct (completely separate) populations remain in the lower forty-eight states. One of these is found in the Yellowstone ecosystem, mostly in Wyoming, and the other is the border grizzly population restricted in Montana on the U.S. side, primarily to Flathead, Glacier, Lewis and Clark, and Lolo counties, including Glacier National Park. A century ago the grizzly range probably included the entire western half of America.

Critical bear habitat undoubtedly is affected by development projects aimed at "boosting" the economy, i.e., creating jobs, developing mineral and fossil fuel resources and even recreational subdivisions. Private housing and recreational developments in excellent bear habitat have resulted in increased interactions between humans and bears. This interaction is usually detrimental to local bear populations, but to what extent is difficult to evaluate.

Some people feel that bears and other wildlife can go elsewhere because "people must make a living." A bit of common sense reveals that bears have no place else to go. This attitude involves a fundamental question of values because many other people feel that further loss of wildlife habitat and wilderness areas is too great a price for additional short-term affluence.

Confrontations between man and bears, particularly grizzlies, have probably occurred ever since the

ancestral stock of each came across the Bering Strait land bridge. These confrontations probably became important as limiting factors to the modern grizzly during the pioneering days of the newly arrived Europeans. From that time to this, man generally has viewed the grizzly as an aggressive competitor. Both fear and romance surround the white man's concept of the grizzly.

More subtle problems leading to wasteful losses of bears arise from recreational uses of parks. Open dumps and hand-feeding have produced dependent, panhandling bears. These degraded individuals, no longer capable of self-reliance, may be lost from the population when dumps are closed abruptly and handouts cease. Even if "unnatural" food supplies continue, it is often necessary to destroy problem bears because of public pressure. The policy of moving bears to remote areas has proven less than successful. Because of their highly developed homing ability, bears often return from great distances or get killed in the attempt.

Numerous states, including Pennsylvania, presently are maintaining relatively healthy but not necessarily constant black bear populations. Much of the original habitat, however, has been depleted. Also, because of

HUNGRY BEARS can cause headaches for farmers and beekeepers. Hunters and tourists want populations high; farmers and ranchers want them low. Such conflicts are part of the management problem.

Potter County Enterprise photo



continued habitat alterations and excessive human invasion into prime bear ranges, none of these states can afford complacency regarding research and management.

Pennsylvania may be unique in its road-kill losses (averaging about 50 annually), and it appears that more bears have been killed on highways since the construction of Interstate Highways 80 and 81 than previously.

Poaching A Factor

In some southeastern states such as Arkansas, Tennessee, and Georgia, poaching is said to be a major limiting factor on bear populations. Unlike Pennsylvania, New York, Maine and some other northern states, these southern ranges do not have significant huntable populations.

In some western states, such as Washington, managed hunts are often necessary to prevent excessive depredation by bears. The forestry practice of growing only conifers in an area, known as coniferous monoculture, may have encouraged an unusual type of behavior characteristic of black bears there: debarking of conifers, presumably so they can eat the cambium, or inner bark.

In southwestern states such as Arizona, ranchers suffer significant livestock depredation by black bears, especially in the early spring before the bears' natural foods become available.

The polar bear population is probably as well off as it ever was, but human activities such as off-shore and on-shore oil drilling and other construction activities in the Arctic could reverse this situation in the near future.

Regardless of all the problems inherent in bear-human relations, people still are fascinated by bears. Perhaps the greatest need is an educated public whose attitude averages somewhere between that of the farmer or rancher who hates all bears and that of the city dweller who may regard the live bear he sees for the first time as a cute, cuddly, harmless pet. Most confrontations leading to unpleasant experiences result from inexperience and misunderstanding.



CAREFUL MANAGEMENT now will make it more likely that Alan Farine, Pittsburgh, shown with his father and 303-lb. (field-dressed) bear, will someday be able to hunt bears with his own youngster.

Even hunters, who should know more than the average person about the game they seek, often do not. Some honestly believe black bears attack readily, while others think they never attack.

Incidences of aggression toward humans most often arise when bears are fed and conditioned to associate with people at close range. This usually occurs in a park situation, or at camps or summer homes where "pet" local bears are fed. Even though unprovoked attacks are rare, bears are unpredictable and should always be respected.

Much research is needed if all facets of the complex bear management problem are to be tied together in an ever-changing world.

The American black bear must be regarded as a renewable resource. As such, it deserves the best management protection we can muster. Given the remaining habitat and proper husbandry, the bear should continue as a huntable species for many years.

Just as important is the esthetic value placed on bears by those who do not hunt. It would be a poor chronicle indeed if someday our black bears were gone because we destroyed their homes, sinking our outdoor experience deeper in poverty.



Don Phillips

Tracking—the Key to Knowledge

By Ken James

IF YOU HAVEN'T had an opportunity to observe the actions of a wild mink in his natural habitat, and it's too late or too early to go on a special "mink-watching" trip, you might consider the most fascinating way to learn the habits of this animal: tracking. After all, just like missing a bus by "that much," you can arrive on the scene immediately after a mink has passed through. Too bad. You didn't see him. But his tracks will still be there.

As I mentioned in Part I of this series, sighting a live wild mink is a thrill—no question about it. But it's almost always a *fleeting* thrill, and most of us will become so enchanted by this lovely creature's sudden appearance that we tend to sit there merely admiring him when we should be analyzing his moves. Why did he go that way . . . instead of this way? After he faded from view, then where did he go? Following tracks offers no distractions. The absence of distraction gives way to deep concentration. You'll be surprised how your curiosity and enthusiasm will be aroused. This is for real, it's nature's game . . . no contrivances, no tricks . . . it's all truth. Once you've lost the trail, and you will, you can study the mink's path for as long as you wish—for as long as it takes to figure out "why?" or "where?"

Where to begin? Last month I mentioned old beaver dams as grand arenas for observing wildlife. But if you don't have the time to try for a live sighting, I recommend looking for tracks along a small meadow stream. Why? First of all, most action will be confined to a much smaller area. Second, except during periods of extremely high water, the smaller meadow streams are much less likely to fluctuate enough to wash

away tracks of a few days ago. Too, the meadow streams I've tracked have had banks and shorelines of everything from wet sand (which I prefer *least*) through mud of varying makeup to pure unadulterated clay. Pond banks, not subject to the continual eroding of running water, often have too much vegetation right to the water's edge to allow good tracking. Tumbling mountain streams: too many pebbles, rocks and boulders. Rivers: generally a good deal of silt which, though it makes for good tracking, is subject to more "washing out" of tracks than smaller meadow streams.

Think Back

Think back to some rabbit or bird hunting trip through a meadow, along a corn- or wheatfield . . . one which had a small stream running through. Start anywhere—a bridge is as good a place as any. Look for tracks in long stretches of smooth, debris-free shoreline. A mink can be tracked for great distances in such areas. If the track leaves what is beginning to look like a main thoroughfare, don't get too involved with picking it up again without trying to determine why he left his course. The tracks might disappear. Look for other sign: droppings, the sign of a kill. The former will pose no problem. A mink is not a cat—his scat will be in plain view and it is unlike that of any other animal. Not pelleted like muskrat, rabbit or deer; obviously not the diameter of that of fox or raccoon. Small, elongated and cylindrical (three-sixteenths of an inch in diameter, maybe . . . who measures?), mink scat will contain fish bones and, surprisingly to me at least, the bones of birds. I don't know how to explain that. I can't

figure out how or where they catch birds. They are known to climb trees, but it's a rarity.

Trying to find a lost mink trail one time had me searching a small hollow like a hunter looking for a 22 short he'd dropped! I was determined to learn the reason the creature left the stream, and did. An old downed tree, nearly two feet in diameter with a large cavity, was located not more than a dozen steps from the stream I'd been trapping—and with only mild success, at that. For no reason except that I can't pass a hollow log without inspecting it, I looked this one over. Inside were piles of mink droppings, feathers and other signs of life and death. Was it a den? Do mink return to their dens to dispose of a meal, then foul their nest? I don't know. But I do know that a mink spent more than one dinner date in that hollow log: the perfect all-weather set, no water to freeze and no chance of snow burying your set. Remember that.

More confusing than trying to pick up a lost mink trail on land is trying to pick it back up again should the animal enter the water. Before losing sight of your purpose, find out *why* he entered the water. On TV it's done to elude a

pursuer, but you can forget that here. Did the mink enter the water in pursuit of a meal? Possibly. But more than likely he was "nudged" in by some obstruction: brushpile, log, boulder . . . Find out *why*; remember *where*. The best of sets are made at such places because mink are notorious for following exact routes. In fact, generations of mink can be expected to travel—and be trapped—at the same locations year after year. I and trappers before and after me have done just that on the same streams, in the same sets over a span of more than forty years—counting the time just three of us spent trapping in one locale!

Accepted But Unproved

Before we get too deeply involved in *where* to look for mink, let's consider some facts as well as some generally accepted but unproved lore about the animal. Long before I was old enough to venture out on a trapline, I dreamed of the day I might trap a mink. The writings then available led me to believe that all mink were taken in water sets by men who were basically muskrat trappers. Now, muskrat trappers take a good number of mink, mainly because of their similar habitat and especially because of the mink's preference for plundering a den of 'rats.

I've had many more reports of *swimming* mink than I've observed. That proves little, except that others were in the right place at the right time more often than I. My deliberate tracking has proved to my satisfaction that a mink spends more time out of water than in it. "This one was a bank runner . . ." I've heard more than one old-timer describe his mink. I firmly believe the mink is basically a bank runner. He *will* enter the water, however. Sometimes he'll be diverted there by a bankside obstruction, as mentioned earlier. At other times it will be a deliberate entry for reasons we can only guess at. Did he spot some swimming meal . . . fish . . . muskrat? A mink seems to have a predisposition to squirm through the smallest hole in sight and whether or not it's in water or on land makes little difference. It is not unusual for a mink to purposely enter water, enter the un-



MINK HAVE A tendency to cram their way into (and through) narrow openings, be they cracks in rock outcroppings, holes, or tunnels into piles of shoreline debris.

derwater entrance to a muskrat tunnel, maybe one leading to other passages, or even to enter a muskrat house. In such cases, I'm firmly convinced that the entrance into the water is deliberate; either the mink is in direct pursuit of a sighted 'rat, or he's doing it instinctively.

Deciding *when* to begin your tracking is like deciding when to go hunting or fishing—it's largely a matter of when you have the time to go, although some seasons are better than others. Late winter, with frozen banks, deep snows or both, is no good at all. Mink move about very little at this time of year. Springtime almost guarantees high water—sometimes the creek *bottoms* where you'd like to search for tracks are many feet underwater. Summer brings heat, insects, a snake or two maybe, poison ivy for sure, nettles and a whole batch of unpleasanties that could make tracking downright uncomfortable. I don't know if wildlife stirs into high-gear after the first frost or whether I do, but once frost has knocked down most of the streamside greenery, killed or numbed the bees and hornets and sent snakes in search of a winter den, I get to tracking. Though it might seem a bit late—too close to the opening day—it's not. Depending on how far north you live, you might have up to two months for tracking before the opening day of mink season. Farther south will make it somewhat later, but there's still plenty of time.

Going out to track mink without knowing what a mink's track looks like is foolish. Simply stated, it's much like that of a gray squirrel except that the mink leaves his prints in a narrower pattern. Also, whereas a gray squirrel will take to the air and land on the side of an oak a few yards away, the mink's path will be more consistent, each "lope" similar to the rest on open ground. They will come closer together in tight situations (as will a squirrel's), but I have not known a mink to make a leap anything like that of a squirrel. The late Paul Faylor's handbook, *Pennsylvania Trapping and Predator Control Methods*, has illustrations of the state's furbearers and their tracks, and it's small enough to pack along on a

tracking hike. You can order it from the Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120. Price is \$1.00.

If you set out to try tracking mink, get all the advice you can get from veteran trappers. But if they start telling you mink *always* or *never* do something, start dividing everything you hear by four. Just about the time you become convinced that an animal will always do this or that—or he'll never do it—he won't, or he will!

If this sounds contrary to what I've been saying about mink "following exact routes," let me qualify things by putting it another way: mink have a definite *tendency* to do certain things repeatedly. Knowing some of these tendencies beforehand and checking them out by tracking will put you ahead of other trappers before you set your first trap.

Mink have a tendency to cram their way into (and through) narrow openings, be they cracks in rock outcroppings, holes or tunnels into piles of shoreline debris, root entanglements, brush heaps, drainpipes, narrow ditches or muskrat tunnels. They also have a tendency to run the edge of a stream, entering the water where a large obstruction forces them to do so. Sometimes it's surprising how little an obstruction will force them into water.

Not Limited

Although mink have that inclination to seek and search out the smaller crevices, tunnels and the like (remember that hollow log I mentioned earlier), they're not limited to tiny entrances or shelters. Concrete road culverts and old stone-arch bridges are far from small, yet these are openings of a sort which mink have a tendency to use. I especially like to inspect bridges over meadow streams which have worn a channel to one side of the bridge, leaving a sand or mud bar partly out of the water on the other side. Often you will spot mink tracks crowding the bridge's base as they leave or enter the water. Bridges are good places to make sets . . . and lose traps.

Trapping at bridges was at first a puzzle to me. Mainly, I suppose, because I listened to too much about only an

occasional “bank runner” passing through. Actually, a bridge is a natural place for a set because the wingwalls usually extend back from the stream bank for quite a distance, and these divert mink into the water.

Let’s get back to the mink’s tendency to enter small openings. A couple of instances I have in mind involve open-



LEFT FRONT



LEFT HIND



ings a mink could have more easily avoided but, instead, actually sought out. Instinct? Habit? Who knows. Some of the history surrounding one of the places we’ll discuss leads me to believe it must be instinct.

One mink I tracked broke most of the rules in the book—and also eluded my trap when that seemed impossible. Overconfident? I don’t think so; I had what I considered a foolproof set. I just happened to be wrong. This creature followed the stream for a considerable distance along its bank. It was a good mink stream. I had picked up one male hardly a half-mile upstream and another about a mile and a half downstream. As this one approached an old stone-arch bridge, it veered away, apparently heading back into the woods. I thought it might have been an old-timer who had lost a toenail in a bridge set and was avoiding it. Instead, it merely loped toward the seldom used dirt road but, instead of crossing it, dipped into a roadside spring, the position of which made it mandatory for a corrugated pipe to be installed under the road, and swam *under* the road—avoiding the road bridge by a good thirty feet! He emerged on the opposite side, returned to a pathway closer to the stream’s edge, and continued downstream. Why did I miss him? Simple. I

gave him too much room to slip *past* the trap.

That was a good example of a mink that did not *always* pass under a bridge. And we can’t say he *never* did, either. But there are some things you can pretty well expect a mink to do. Tracking will confirm your theories. Finally trapping an animal you’ve previously tracked is the icing on the cake. A good illustration of some things you can expect a mink to do comes to mind, and this might qualify as one of those things that mink, as a species, do by instinct.

Moving into a new area in northeastern Pennsylvania, I had the good fortune to meet a man whose outdoor tastes were similar to mine. We soon became good friends. He had trapped from his youth but his current work no longer permitted it. He carefully described sets he had made along a stream on the farm where he grew up. His instructions were so complete that I was to eventually find—and *trap mink* in—all of his old sets but one.

Trickle in Summer

The stream held no more than a trickle in summer; it drained a small swamp and eventually fed a lake of some seventy acres, the distance between swamp and lake not much more than a country mile. The stream ran between two cultivated fields and someone had installed a small drain-pipe to contain the flow for a short distance while serving as an access point to either field. The fill used for the approaches was of no great depth; a mink traveling the banks on either side would not have been diverted or nudged into the water at this crossing, but they *almost always* chose to dive into the culvert and swim *under* rather than take the overland route. It was a grassy area and offered little conventional tracking opportunity beforehand. But I was going on a sure bet . . . my friend had trapped mink at that spot more than twenty years before. They were still running the same paths, many mink generations later.

Earlier, I mentioned that wet mud was my favorite tracking surface. But in cases like this latter mink, and those around ponds and lakes with grassy or

leaf-cluttered shorelines, you can't beat a freshly fallen snow—especially a light snow. You never have a choice, of course, and you can still do well if the snow is deeper than you like. But deep snows will keep mink in the water more (if it's not frozen over) and once colder weather comes, they'll travel much less. It is said that a mink will pass a given spot about once a week, sometimes once in two weeks, depending upon the locale, the forage and the individual mink. Females do not roam so far and wide as males; in late winter, both cut down on travel considerably.

Despite my fondness for tracking in mud, I will always remember how elated I was to track my first mink. Like

my first fox, it was in a light snow. It's something you must try. But don't ever lose sight of your intended purpose: your task is not to see how far you can track the mink, but to *observe* what he does along the way. Then try to figure out *why* he's done it, for many other minks will do the same.

Do your groundwork. Find your mink well in advance of the season. Determine where sets might be made. Make a list of traps you'll need; prepare them ahead of time.

I found four different traps to be especially faithful and dependable in mink trapping. We'll discuss them and how to make sets that work in an upcoming issue of GAME NEWS.

Books in Brief . . .

(Order from publisher, not from Game Commission)

Hunt Close! by Jerome Robinson, Winchester Press, 205 E. 42nd St., NYC 10017, 21 pp., \$10. Tells how to train a gun dog to excel in tight-cover conditions, tucked in at a comfortable range, hunting the cover the hunter has chosen rather than following a dog searching for distant birdy-looking objects.

Build Your Own Log Cabin, by Paul and Karyn Pfarr, Winchester Press, 205 E. 42nd St., NYC 10017, 191 pp., \$12.50. Tells how one person with little money and no previous experience with tools can build a cabin. Based on personal experience, it covers details most such books miss, outlines pitfalls to be avoided, etc. A great deal of practical information.

Dogsled, A True Tale of the North, by Slim Randles, Winchester Press, 205 E. 42nd St., NYC 10017, paperbound, 209 pp., \$2.95, hardcover \$7.95. A personal account of two dogsled expeditions in Alaska—a 300-mile publicity trip and an 800-mile expedition along the Alaska pipeline. Randles, a Southern California reporter, makes his boyhood daydreams come true.

The following three paperbound books are available from Stoeger Publishing Co., 55 Luta Court, South Hackensack, NJ 07606:

The Lure of Antique Arms, by Merrill Lindsay, 146 pp., \$5.95. Lindsay, a genuine expert in the field, discusses various areas of old gun history and gives suggestions on where to look now for collectibles, how to spot fakes and rarities, and how to care for these ancient weapons.

Hunting for Beginners, by Dick Pryce, 178 pp., \$5.95. Basic instructions for youngsters on handling rifles and shotguns and hunting upland game, waterfowl and common species of big game. Lots of good common sense advice.

The Complete Guide to Hunting, by Arthur L. Cone, Jr., 335 pp., \$5.95. Though it's impossible to cover in depth everything that the title implies, Cone's efforts will be worthwhile for many hunters. Chapters on hunting most North American game species, guns, dogs, and related subjects.



Photo by Tom Feg

Applications For Goose Blinds To Be Accepted

APPPLICATIONS for hunting from goose blinds at the Pennsylvania Game Commission's two controlled hunting areas at Pymatuning and Middle Creek will be accepted September 1 through September 20.

Hunters are permitted to apply to only one of the two areas. If a person applies to both areas, that person will not be eligible to hunt on either area.

A hunter will be permitted only one trip to a controlled goose shooting area this year. If a person hunts geese on one area, he will not be eligible to return to that facility this year, nor may he hunt on the other controlled goose shooting area.

There are 40 goose blinds at Pymatuning, and 25 will be in operation this year at Middle Creek. The Game Commission will hold drawings at Pymatuning and Middle Creek late in September to select blind holders. A reservation will entitle the applicant to bring not more than three guests. The guests must be present to register.

There will be four shooting days each week of the season at both areas—on

Mondays, Tuesdays, Thursdays and Saturdays at Middle Creek and on Mondays, Wednesdays, Fridays and Saturdays at Pymatuning.

Reservation requests must be made on official application forms. Forms for hunting at Pymatuning are on orange colored stock, while those for Middle Creek are on yellow stock. Middle Creek applications may not be used for Pymatuning or vice versa.

Applications must be submitted either to the Pennsylvania Game Commission, Pymatuning Waterfowl Area, RD 1, Hartstown, Pa. 16131, or to the Pennsylvania Game Commission, Middle Creek Wildlife Management Area, RD 1, Newmanstown, Pa. 17073.

The applicant's 1978-79 hunting license number, including the letter, must be listed on the application. Applications must be postmarked no earlier than September 1 and no later than September 20; if the postmark is before September 1 or after September 20 the application will be rejected. Only successful applicants, as determined in the drawings, will be no-

tified. Reservations are not transferable.

The successful applicant whose name appears on the reservation must present the reservation in person at either the Pymatuning Waterfowl Area headquarters (registration building) located on Legislative Route 20006 between Hartstown and Linesville about four miles north of Hartstown, or at the Middle Creek Wildlife Management Area Visitors Center located on Hopeland Road about two miles south of Kleinfeltersville.

Hunters should arrive at least one hour before shooting time to allow for the issuance of permits. All reservations for any one day will be valid only up to one-half hour before shooting time on the specified day.

A federal migratory bird hunting stamp (duck stamp) is required to hunt geese and ducks, and 1978-79 hunting licenses and duck stamps must be presented at the check station.

Only one official application per person may be submitted. Anyone submitting more than one application for a reservation will have all applications rejected. Further, individuals filing more than one application or hunting more than one time per person on a controlled goose hunting area in the state will be denied the privilege of hunting on these areas for three years.

Provisions have been made at both Middle Creek and Pymatuning to accommodate handicapped persons if they are successful applicants.

Shooting hours for the controlled goose hunting areas at both Pymatuning and Middle Creek are from one-half hour before sunrise until noon. Hunting starts at 9 a.m. at Pymatuning on October 28. There is no hunting from goose blinds at Middle Creek on October 28.

In addition to the goose shooting area, there are also three controlled duck shooting areas at Pymatuning. Fifty hunters can be accommodated at a time in each of these three areas, making it possible for 150 hunters to utilize the duck areas on shooting days.

Shooting days for the Pymatuning duck areas are also Mondays, Wednesdays, Fridays and Saturdays, and duck area shooting hours are the same as for the goose area. While these duck areas are controlled shooting sections, there are no advance reservations.

A drawing is held each morning to determine the 150 hunters who will qualify for that day. If there are fewer than 150 hunters, the first-come-first-served rule prevails. Those using the duck areas must check in at the registration building.

This year there will again be four duck shooting blinds at Middle Creek, with a drawing each shooting day to determine the winners of these blinds. A hunter may take a goose from a Middle Creek duck blind or from the controlled duck shooting area at Pymatuning. However, a hunter may not take more than one goose per year from the controlled Pymatuning duck shooting area.

Ducks may be taken by hunters using the goose blinds at both Middle Creek and the Pymatuning, within other existing federal and state regulations.

Applications for hunting from the goose blinds at Pymatuning and Middle Creek are available from the Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120; or any of the six field division offices of the Game Commission; or from any game protector; or the Pennsylvania Game Commission, Pymatuning Waterfowl Area, RD 1, Hartstown, Pa. 16131; or the Pennsylvania Game Commission, Middle Creek Wildlife Management Area, RD 1, Newmanstown, Pa. 17073.

Only one goose may be taken per day in Crawford County, where the Pymatuning Waterfowl Area is located. There is also a limit of one goose daily on the controlled goose shooting area at the Middle Creek Wildlife Management Area.



Game Commission Declares Two-Day Antlerless Deer Season—December 15 and 16

The Pennsylvania Game Commission, by resolution at its meeting on June 1 in Harrisburg, declared a two-day statewide open season on antlerless deer.

Hunters participating in the antlerless deer season must possess an antlerless deer license for the county in which they are hunting in addition to the regular hunting license. One antlerless deer license application will be issued with each license. Antlerless licenses are available from County Treasurers **BY MAIL ONLY. DO NOT MAIL APPLICATION TO PENNSYLVANIA GAME COMMISSION OR DEPARTMENT OF REVENUE, HARRISBURG.** See rules on reverse side of application form.

Only hunters who have not already harvested a white-tailed deer and who possess an antlerless license may legally harvest an antlerless deer. Antlerless deer are those animals without visible antlers or with antlers each of which is less than three inches in length, regardless of sex.

In a specially designated area of southeastern Pennsylvania, the antlerless season extends from December 11 to December 16.

In the Special Regulations (Buckshot) Area, antlerless deer may be taken during the regular statewide buck season if the hunter possesses an antlerless deer license.

There will be no extension of the antlerless season regardless of weather and/or harvest.

County antlerless license allocations are as follows:

ANTLERLESS DEER PERMIT ALLOCATIONS

<i>County</i>	<i>County Seat</i>	<i>No. of Licenses</i>	<i>County</i>	<i>County Seat</i>	<i>No. of Licenses</i>
Adams	Gettysburg	4600	Lackawanna	Scranton	3550
Allegheny	Pittsburgh	5200	Lancaster	Lancaster	4250
Armstrong	Kittanning	7050	Lawrence	New Castle	1500
Beaver	Beaver	5100	Lebanon	Lebanon	2700
Bedford	Bedford	8850	Lehigh	Allentown	2100
Berks	Reading	6550	Luzerne	Wilkes-Barre	8300
Blair	Hollidaysburg	6300	Lycoming	Williamsport	14,400
Bradford	Towanda	8550	McKean	Smethport	9700
Bucks	Doylestown	5600	Mercer	Mercer	2800
Butler	Butler	7900	Mifflin	Lewistown	4000
Cambria	Ebensburg	7950	Monroe	Stroudsburg	6350
Cameron	Emporium	4900	Montgomery	Norristown	3700
Carbon	Jim Thorpe	5500	Montour	Danville	7500
Centre	Bellefonte	13,200	Northampton	Easton	2850
Chester	West Chester	4500	Northumberland	Sunbury	2950
Clarion	Clarion	4300	Perry	New Bloomfield	5150
Clearfield	Clearfield	11,500	Philadelphia	Philadelphia	—
Clinton	Lock Haven	9550	Pike	Milford	5200
Columbia	Bloomsburg	3200	Potter	Coudersport	11,300
Crawford	Meadville	5150	Schuylkill	Pottsville	7200
Cumberland	Carlisle	3150	Snyder	Middleburg	1700
Dauphin	Harrisburg	3350	Somerset	Somerset	10,350
Delaware	Media	400	Sullivan	Laporte	3650
Elk	Ridgway	8600	Susquehanna	Montrose	3500
Erie	Erie	3500	Tioga	Wellsboro	11,200
Fayette	Uniontown	4900	Union	Lewisburg	2750
Forest	Tionesta	5600	Venango	Franklin	5500
Franklin	Chambersburg	6400	Warren	Warren	8700
Fulton	McConnellsburg	4850	Washington	Washington	7700
Greene	Waynesburg	5600	Wayne	Honesdale	6400
Huntingdon	Huntingdon	9300	Westmoreland	Greensburg	10,300
Indiana	Indiana	8900	Wyoming	Tunkhannock	2400
Jefferson	Brookville	6500	York	York	6700
Juniata	Mifflintown	3900		TOTAL	390,000

To Keep Their Figures?

Snakes have been known to live a year or more without eating.

Seasons and Bag Limits Established

PENNSYLVANIA will have a two-week quail hunt, a three-week turkey season in the northcentral part of the state, and a two-day antlerless deer season for which 390,000 antlerless licenses will be authorized during the upcoming hunting license year.

The hunting seasons and bag limits for 1978-79, originally proposed by the Game Commission in April, have been adopted almost exactly as previously presented.

This year's regular four-week archery deer season will open on Saturday, September 30; the early small game season will start on Saturday, October 14; and the four-week general small game season will begin on Saturday, October 28.

The regular two-week antlered deer season will open on Monday, November 27; the two-day antlerless deer season will be held on Friday and Saturday, December 15 and 16; and the winter small game and archery and muzzleloader deer seasons will begin on December 26 and close January 13.

Pennsylvania is at the northern extremity of the bobwhite quail's natural range. As such, its abundance is controlled by the severity of winter weather, even in the bird's best quality habitat.

The last two winters have cut sharply into quail populations, and additional protection for this fine game bird in the form of a two-week season has been adopted for this year. Normally, quail are hunted throughout the regular small game season.

The severe weather during the past winter also cut into turkey and deer populations in the state. When seasons were proposed for these species in April, the Game Commission had not been able to adequately assess winter wildlife losses, and indicated that further restrictions might have to be imposed should mortality prove to be excessive.

After gauging winter's impact on wildlife, the Game Commission concluded that adequate safeguards had been incorporated into the original pro-

posals. Therefore, a three-week season for hunting turkeys was established in the northcentral part of the state, and a two-week season was approved for the remainder of Pennsylvania.

Last year 456,300 antlerless deer licenses were authorized in the state. This year, the allocation of antlerless licenses will be 390,000.

The only change in the official seasons and bag limits from the Game Commission's proposals put forth in April is in the closing date of the fox hunting season. Originally, the fox hunting season was proposed to conclude on January 31. Now, the closing date for the hunting of foxes has been moved back one month, and fox hunting will end on February 28. The fox trapping season will close on January 31, as originally scheduled.

Since fox hunters have fewer opportunities for their sport during the small game seasons, and since fox hunting is now forbidden during fourteen days of deer season, game managers feel that an additional month of fox hunting opportunities will not adversely affect the resource.

National Hunting & Fishing Day®



September 23, 1978

Seasons and Bag Limits 1978-1979

The Pennsylvania Game Commission, in Harrisburg on June 1, 1978, established the following seasons and bag limits for resident game and furbearers for the 1978-1979 hunting license year which begins September 1.

Open season includes first and last dates listed, Sundays excepted, for game. The opening hour for small game, migratory game birds and other wild birds or animals on October 28 will be 9 a.m. Shooting hours for other days and seasons will be from one-half hour before sunrise until sunset except turkey gobblers (spring season) from one-half hour before sunrise until 11 a.m., and raccoons which may be hunted any hour except during the firearms deer seasons when the hours are from sunset to one-half hour before sunrise. Seasons and shooting hours for migratory birds will be announced later.

Daily Limit	Field Possession Limit	SMALL GAME	DATES OF OPEN SEASONS		
			First Day	Last Day	
6	12	Squirrels, Gray, Black and Fox (combined)	Oct. 14	Nov. 25 AND Dec. 26	
2	4	Ruffed Grouse	Oct. 14	Nov. 25 AND Dec. 26	
4	8	Rabbits, Cottontail	Oct. 28	Nov. 25 AND Dec. 26	
2	4	Ring-necked Pheasants, males only (except in designated area)* —both sexes in designated area*	Oct. 28	Nov. 25 Dec. 26	
4	8	Bobwhite Quail	Oct. 28	Nov. 11	
5	10	Raccoons (Hunting)#	Nov. 1	Jan. 31, 1979	
	Unlimited	Woodchucks (groundhogs)#	No Close Season		
	Unlimited	Foxes—Red and Gray (Hunting)#	Sunday hunting prohibited. Oct. 28		
			Feb. 28		
Daily Limit	Season Limit				
1	1	{ Wild Turkey—Northcentral Area**	Oct. 28	Nov. 18	
			—Southcentral Range and Peripheral Range	Oct. 28	Nov. 11
			—Spring Gobbler Season (bearded birds only)	Apr. 28	May 19, 1979
1	1	Hares (Snowshoe Rabbits) or Varying Hares	Dec. 26	Jan. 1, 1979	
2	4				
	Unlimited	Crows (Hunting on Fridays, Saturdays, Sundays only)	Sep. 1	Nov. 26	
			Jan. 5	Apr. 15, 1979	
			Jun. 1	Aug. 31, 1979	
NON-GAME					
BIG GAME					
1	1	{ Deer, Archery Season, any deer—Statewide	Sep. 30	Oct. 27 AND Dec. 26	
			Nov. 27	Dec. 9	
			Nov. 27	Dec. 9	
			Dec. 14		
			Dec. 15	Dec. 16	
			Dec. 11	Dec. 16	
			Dec. 26	Jan. 13, 1979	
TRAPPING					
Unlimited		Skunks, Opossums, Raccoons, Foxes, Weasels, Coyotes# (traps) .	Nov. 5	Jan. 31, 1979	
Unlimited		Minks#	Nov. 23	Jan. 1, 1979	
Unlimited		Muskrats (traps only)	Nov. 23	Jan. 1, 1979	
3	3	Beavers (traps only)	Feb. 10	Mar. 11, 1979	

NO OPEN SEASON—Bears, Elk, Otters, Hungarian Partridges, Sharp-tailed Grouse, Bobcat or Wildcat.
NO CLOSE SEASON—Chukar Partridges, Red Squirrels.

SPECIAL REGULATIONS

#No hunting for any wild bird or wild animal except deer and migratory game birds during the firearms seasons for deer (muzzleloader season excepted). Raccoons may be hunted between sunset and one-half hour before sunrise during the firearms seasons for deer. The daily limit of five (5) raccoons in any 24-hour period starting at

noon of one day and ending at the following day and possession limit of ten (10) shall apply to individuals or parties. Sunday hunting of raccoons prohibited.

**Designated Area for Male and Female Pheasants*—East of Interstate Route 79 from the city of Erie to Interstate Route 80. Thence north of Interstate Route 80 from Interstate Route 79 to the junction of Route 220. Thence north of Route 220 to the junction of Route 118. Thence north of Routes 118 and 415 to junction of Route 309. Thence north and east of Route 309 to the junction of Interstate Route 80. Thence north of Interstate Route 80 to the New Jersey line.

***Wild Turkey Season Oct. 28 to Nov. 18* in the counties of Cameron, Elk, Forest, McKean, Potter, Sullivan, Tioga, and in that part of Warren County east of Route 69 north of Route 27 and east of Route 27 south of Route 69, that part of Crawford County south of Route 27 and east of Route 8, that part of Venango County east and south of Route 27 from the Warren County line to the Crawford County line, east of Route 8 from the Crawford County line to Franklin, and north of Route 322 between Franklin and the Clarion County line, those parts of Clarion and Jefferson Counties north of Route 322, that part of Clearfield County north of Route 322 from the Jefferson County line to Route 219 at Luthersburg, north of Route 219 from Luthersburg to Grampian, north of Route 879 from Grampian to Clearfield, and north of Route 322 from Clearfield to the Centre County line, that part of Centre County north of Route 322 west of Port Matilda and north of Route 220 east of Port Matilda, that part of Clinton County north of Route 220, that part of Lycoming County north of Route 220 west of Hughesville and north of Route 118 east of Hughesville, that part of Columbia County north of Route 118, that part of Luzerne County north of Route 118 west of Route 415, north of Route 415 between Route 118 and Route 309, and west of Route 309 north of Dallas, that part of Wyoming County west of Route 309 south of Tunkhannock and west of the Susquehanna River north of Tunkhannock, and that part of Bradford County west of the Susquehanna River.

****Special Regulations Area*—Only bow and arrow, buckshot or single projectile shotgun ammunition (slugs or “punkin” balls) may be used for taking deer. The use or possession of single projectile rifle or handgun ammunition or the use or possession of rifles or handguns while hunting or trapping at any time is prohibited in that part of southeastern Pennsylvania bounded by the following: Beginning at the Delaware River, southwest on Route 202 to Route 313, northwest on Route 313 to Route 563, southwest on Route 563 to Route 309, south on Route 309 to Route 113, southwest on Route 113 to the Schuylkill River, northwest along the Schuylkill River to Route 100, and south on Route 100 to the Pennsylvania line. Hunting deer with firearms is prohibited in Philadelphia County.

*****Antlerless Deer Season—December 14*—In that part of Warren County east of the Allegheny River, that part of McKean County west of Route 219, that part of Elk County west of Route 219 and north of the Clarion River, and that part of Forest County east of the Allegheny River.

******Antlerless Deer Season—December 11 to December 16*—In the counties of Chester, Delaware and Montgomery, and in that part of Berks County south of Route 22, and in that part of Bucks County within the Special Regulations Area.

******State Game Lands and their locations by Counties for Muzzleloader Season:*

12—Bradford-Sullivan; 13—Sullivan-Columbia; 14—Cameron-Elk; 24—Clarion-Forest; 25—Elk; 26—Bedford-Blair-Cambria; 28—Elk-Forest; 29—Warren; 30—McKean; 33—Centre; 34—Clearfield-Elk; 35—Susquehanna; 36—Bradford; 37—Tioga; 39—Venango; 42—Cambria-Somerset-Westmoreland; 44—Elk; 49—Bedford-Fulton; 50—Somerset; 51—Fayette; 54—Jefferson; 57—Wyoming-Luzerne; 58—Columbia; 59—McKean-Potter; 60—Centre; 64—Potter; 65—Fulton; 67—Huntingdon; 68—Lycoming; 70—Susquehanna-Wayne; 73—Bedford-Blair-Huntingdon; 74—Clarion-Jefferson; 75—Lycoming; 76—Franklin; 82—Somerset; 84—Northumberland-Schuylkill; 86—Warren; 88—Juniata-Perry; 89—Clinton; 90—Clearfield; 91—Lackawanna-Luzerne; 92—Centre; 93—Clearfield; 94—Clearfield; 97—Bedford; 100—Centre-Clearfield; 101—Crawford-Erie; 103—Centre; 104—Bedford-Somerset; 105—Armstrong; 106—Berks-Schuylkill; 107—Juniata-Mifflin; 108—Cambria; 110—Berks-Schuylkill; 111—Fayette-Somerset; 112—Huntingdon; 119—Luzerne; 124—Fulton-Franklin; 127—Monroe; 129—Carbon-Monroe; 134—Lycoming-Sullivan; 135—Lackawanna; 138—Fayette; 141—Carbon; 143—Warren; 153—Indiana-Westmoreland; 159—Wayne; 174—Indiana; 179—Greene; 180—Pike; 183—Pike; 187—Luzerne; 204—Potter; 208—Tioga; 209—Pike; 210—Dauphin; 211—Dauphin-Lebanon; 221—Monroe; 223—Greene; 235—Franklin; 240—Bradford; 268—Tioga; 276—Indiana

Outstanding Deputy Game Protectors—1977

The deputies shown, one from each field division, have been recognized for their outstanding contributions to the programs of the Pennsylvania Game Commission during the past year. Their efforts are appreciated.



W. T. Ridinger
Southwest Division



Sam Volpe
Northwest Division



Ken Krah
Northcentral Division



Ray Ostrowski
Northeast Division



Earl Bowman
Southeast Division



Bill Gorman
Southcentral Division



DGP Dick Curfman, Coudersport, was honored by the Northeast Conservation Law Enforcement Chiefs Assoc. as Pennsylvania's conservation officer of 1977. He also received a similar award from the Shikar-Safari Club. PGC Executive Director Glenn Bowers presents certificate.

MUSEUM, CENTER VISITING HOURS

Visitors are reminded of the special hours in effect at the Game Commission's Pymatuning Waterfowl Area museum, the Middle Creek Wildlife Management Area visitors center, and the Siegel Marsh visitors center.

During August, the Pymatuning museum near Linesville, Crawford County, is open from 10 a.m. to 7 p.m. daily. In September and October, museum hours are 10 a.m. to 5 p.m. Groups may visit the museum in November by appointment only.

Reservations for groups can be made with Waterfowl Management Coordinator Raymond M. Sickles at RD 1, Linesville, Pa. 16131, or by telephoning 412-927-2199 or 814-683-5545.

Visiting hours at the Middle Creek visitors center in Lebanon and Lancaster counties are from 10 a.m. until 5 p.m. Wednesday through Saturday and from 1 to 5 p.m. on Sunday through the end of November. Groups planning to visit Middle Creek should contact Waterfowl Management Assistant Charles L. Strouphar at RD 1, Box 695, Sunnyside Road, Newmanstown, Pa. 17073, or by telephoning 717-733-1512 or 717-949-3582.

Groups planning to stop at the visitors center on State Game Lands 218 (Siegel Marsh) in Erie County should make reservations fifteen days in advance by contacting DGP Andrew C. Martin, 2805 Athens Road, Erie, Pa. 16510, telephone 814-899-8425. The

center may be visited from 8 a.m. to sunset through September 30, and on Sundays only in October.

Just One Eaglet From Three Nests

The three pairs of bald eagles which nested at the Pymatuning Waterfowl Area near Linesville, Crawford County, this year have produced just one eaglet.

The pair of eagles which constructed a new nest this year in the Conneaut Marsh to replace their old one destroyed in a storm last year incubated unsuccessfully in 1978.

A second nest on the west end of the Pymatuning Area produced one eaglet which seems to be doing quite well.

A third nest, built last year near the Waterfowl Area museum, was the scene of incubation for a time in March, but the eagle on the nest at that time tangled with a golden eagle and abandoned the nest for a while. The eagle did re-nest and incubated for about a week and a half, but then left the nest for good, without having been able to hatch any eggs.

No other eagles are known to have successfully nested this year in Pennsylvania.

Nongame Symposium Proceedings Available

Last Fall, the Game Commission and the Pennsylvania chapters of the Audubon Society cosponsored a symposium on nongame species at Middle Creek Wildlife Management Area. Several speakers described nongame programs in this and other states. Committees discussed the status of various species groups, from plants to mammals, and suggested actions to conserve them. The report was designed as a working tool for individuals involved or interested in nongame management. *Proceeding of the Symposium on Nongame Species*, 154 pp, 8½x11, softbound. \$4.50 postpaid. Order from Frank Dunstan, Audubon Mid-Atlantic Regional Representative, P.O. Box 4181, Harrisburg, Pa. 17111.

Take Care of Your Deer

IMPROPER care of your deer in the field will mean less or no venison, and the meat you get back from the butcher will be far less tasty than it should be. What a waste after all the effort you put into downing your white-tail!

But did you know that you also have a responsibility to others to care for your venison properly? Others, that is, besides the family and friends who look forward to sharing the fruits of your hunt.

Surely you've seen the purple stamp on meat, or the shield on the package, that says "U.S.D.A. Approved." The U.S. Department of Agriculture supervises and inspects slaughter houses for your health and safety. Strict state and federal laws govern the type and condition of carcasses received, as well as the way they're processed at the plant.

Many deer harvesters take advantage of a regulation which allows game animals to be prepared, packaged and stored by commercial establishments. Though game carcasses aren't officially inspected by government personnel, the regulations clearly state they must not "create an unsanitary condition or otherwise result in adulteration of any products at the official establishment."

Federal inspectors recently pointed out to us that many of the deer carcasses they see in the plants would not meet inspection standards and would be declared unfit for human consumption. They've been poorly cared for in the field and during transit. They're contaminated by hair, intestinal contents, soil, blood clots, and bruises. Heart, lungs, intestines, etc., are carelessly removed or not removed at all. Some carcasses are partly spoiled.

No butcher can be expected to prepare tasty, wholesome venison cuts from such carcasses. Much of the meat must be discarded.

Do you like the idea of yourself, your family and friends eating meat which is "unfit for human consumption"?



KILLING A DEER is just the beginning. The successful hunter now has to remove internal organs, clean out body cavity, cool meat quickly, and transport the carcass properly to a butcher, who can then prepare tasty, healthful venison cuts.

Probably not. That means you have to take time to field dress your deer properly, and transport it to the butcher in such a way that he has a good carcass to work with.

If you aren't sure of the best method of caring for your potential venison steaks, either of two fully illustrated GAME NEWS reprints may help. They're called "To Field Dress a Deer" and "Venison Needn't Be Pot Luck." Both are available from any Game Commission field division office or the I&E Division, Harrisburg.

Good hunting—and good eating!

Mail Order License Applications

Each year at the last minute, many persons submit mail order applications for hunting licenses and are dismayed and upset when they don't receive their licenses in time for hunting season. Don't let something like this spoil your plans. Rozell Stidd, supervisor of the Game Commission's Hunting License Section, lists several ways to avoid such disasters:

- Send in your application at least two weeks before you expect to use the license—even earlier if you live far away. If everything is correct, the application will be processed and the license mailed within 24 hours of the time it's received at the License Section. But transit time in the mail is not always predictable—and remember to plan for weekends and holidays.

- Mail *only* to the Game Commission License Section, **DO NOT** mail to the Department of Revenue.

- Only certified checks or money orders are acceptable for payment—*no personal checks*. You may pay for more than one license with a single remittance, but *do not* include payment for anything besides hunting licenses.

- If you apply for a resident license, you must include positive proof of Pennsylvania residency. This may be a copy of such things as a current vehicle registration, state income tax receipt, or local personal tax receipt. (A driver's license is not acceptable.) Some other items are acceptable; if you have questions, contact the License Section in Harrisburg.

Those are some of the most common problems, according to Stidd. Fill out your application properly, enclose the correct remittance and any necessary document copies, mail it to the License Section at least two weeks in advance—and have a good hunt!

PGC Receives \$2,635,093 in U.S. Funds

Pennsylvania will receive \$2,635,093.49 as its share of Pittman-Robertson Wildlife Restoration and Research Funds for the 1977-78 fiscal year, according to Game Commission Pittman-Robertson Coordinator John Doebling. The figure is about \$840,000 less than for the previous year. However, the year's allocation is for a 12-month period, whereas the preceding allocation was for a 15-month fiscal year.

Pittman-Robertson funds are used by the Game Commission for wildlife habitat development and management, and research to aid in managing game species. The wildlife habitat management and development work is being conducted statewide and includes improvements on about 1,180,000 acres of State Game Lands and over 4,500,000 acres in the Game Commission's cooperative farm game, safety zone and forest game programs.

Federal aid programs for wildlife restoration are administered by the U.S. Fish and Wildlife Service. Funds come from an 11 percent excise tax levied on sporting arms and ammunition, a 10 percent tax on handguns, and an 11 percent tax on certain archery equipment. Each state's allocation of funds is based on its total land area, population, and the number of licensed hunters in the state. Under the program, states spend their own funds on approved projects, and are then reimbursed by the U.S. Department of the Interior up to 75 percent of the cost of the projects.

Good to Know

People eat pythons more than pythons eat people.



WOODLAND THOUGHTS

BY LOU HOFFMAN

Wildlife Education Specialist

August shadows are deep and still. They spill over the rich greens of the valleys and woodland crannies, robing everything as they go. They run like watercolors into the wood, and moods grow out of their stillness. For the most part August is a sober time of the year. Kinda like the beginning of the wind-down, and there's a lot of unwinding to do. Nature's bottom line is rich with what biologists call biomass. Antlers and acorns, bats and bugs, turkeys and thornapples, flickers, fleabanes and more all weight the woods with flesh and fiber.

I'm wondering what I have to show for the past three months. August is the calm before the storm and she can present some fine electrical shows. She pulls the curtain on this thing called summer and draws a bead on the autumnal equinox. Orion is falling out of the nighttime sky and, in a head-scratching sort of way, I'm wondering where it all has gone. Thoughts of the past two winters are still crisp and, though I'm a winterite, these green hills wrapped in warm air aren't too bad either. But what do I have to show for these past three months? No matter, 'cause in any case August holds some fine rambling times and is like February in some ways. Green canopies muffle sounds better than any other month, and by getting away from the heavily used parks and lakes the quiet of winter is encircled with the temperatures of summer. A tough combination to beat. And Penn's Woods moods are as deep as any woodland shadow. Some of mine were sparked by what follows.

SOAKING UP the sun on the rocky backbone of a ridge is a good mid-day pastime. But the ridge offered more than sun, and the breezy updrafts

from the flanking valleys kept me comfortable by fighting off the sweat beads through evaporation. The valley off to the south reflected a farm mosaic of pale-wheat stubble, mint-green fields of freshly cut clover, and dark-green swaths of corn standing ready to be bleached brown. Veins of fence rows crisscrossed the crops with some regularity but each year they become more scarce. Few seem to realize, or care, that they represent the lifeblood for the wildlife community. On a smaller scale wheaty splotches signal the location of sinkholes blemishing the farmland to the delight of woodchucks, foxes, cottontails and a few smaller creatures that occupy their limestone catacombs. Farther away buildings formed clusters showing the towns of the area. The Cumberland is a good looking valley.

But I was more interested in the northeast horizon. Even though the raptor migration was a few weeks off, early arrivals could be expected. And a spot way out on the horizon proved me right. As I lifted the binoculars to my face, it quickly swelled to the form of a hawk. I suspected a broadwing. As the distance between us shrank, his form verified that, too, and he was the first of what would eventually be some 15,000 broadwings that would pass the lookouts before summer's end.

He played in a thermal coming off the northern side of the ridge. Attentive to the laws of physics, the warm air column rose like a wave going up the slope and extending beyond by two or three hundred yards. There it curled spilling back to the landscape below. The broadwing followed the windy splash and rode it effortlessly until he needed more altitude. With just a much ease, he arced his wings, fixing a new angle, and caught another updraft.

Using several dozen contour feathers, he was better than any skipper using the best yacht.

Just as coltsfoot, sneaking onto the barren roadsides during early March, announces spring, so does the migratory flight of the broadwing signal the end of the growing season.

August is also the time when bucks, heavy with velvet, parade under apple trees with limbs sagging from their own fleshy swellings. I don't think I've ever seen a deer more content than he is when he's munching apples. Probably more summer evening drives have been shortstopped by that combination than any other. Some wonder where they'll be this fall; others wonder where they've been; old-timers reminisce; kids just wonder. Our interest (or is it need?) in wildlife isn't marred by generation gaps.

Not unlike any other month, August gives us some unexpected things, too. Or maybe I've just not looked hard enough or long enough. Anyway, a woodchuck strolling along a Centre County dirt road at 1 a.m. seemed out of place—at least timewise. Apparently I was more surprised than he, for he casually continued on his way, then sauntered off the roadway. I passed and thought some more about the places I find these critters. They include: perched twelve feet off the ground in an apple tree; lounging eight feet off the ground in a hornbeam off Bunnell Ridge, one-quarter mile from the nearest clearing; and now, walking along a woodland road at 1 o'clock in the morning. They do get around.

Sometimes August happenings are not so much out of time as out of place. Last year, on the last day of August, a sharpie arced over the Capitol dome, screaming all the way, and landed on the radio tower atop the South Office Building where he continued to scold the state complex. I admired his spirit, especially since gutter hawks (pigeons) are the usual morning greeters. I don't know how long he stayed but I suspect he found easy pickings, with all the starlings and sparrows to choose from.

Leo and Virgo pair to give us much during these days, but to move through August without mention of her storms

wouldn't be quite right. There's little sign of an energy shortage when she whips those towering thunderheads into torrential campaigns armed with wind, thunder and lightning.

Thoughts go back to one of those late evening battles that shaped up behind the cabin last summer. From the back porch a northward view of the Wild Boy gives way to a split valley with a sugarloaf knob between. The right draw climbs to Rock Ridge, the left side slides deeper into the headwaters of Wild Boy Run.

Just before dark, rolling off the Wild Boy side, a wall of thunderheads sneaked into the valley. Quiet, but full of awesome power, they tumbled over the sugarloaf, frothy like water over rock. I guessed the storm's path, jumped in my car and drove to a lookout to get a better view. Although I was on top in less than ten minutes, the storm front changed directions and I was left overlooking a peaceful summer valley. Nothing's sure in nature and seldom is anything controlled by man. A fact some deny. Meanwhile, the pounding of thunder echoed off Rock Ridge.

There's much more to August. Logs pulverized by bears . . . red efts on mossy stumps . . . a moon swollen with a gold-filled glow—these are the things seen. Colors and textures that grow out of the shadows of the natural world.

But considering how short-lived they are, I'm amazed by their timeless effect on at least some of us. To those who notice, the summer's a little fuller. On top of that, we're fortunate to see them again. Most animals see no more than two Augusts. For them, everything is survival, not appreciating shadows or storms. Maybe, though, if we go into September knowing more about August, we can consider that our net gain—a kind of human biomass. Not as good looking as an antler, or as delicate as a fleabane, or as quick as a bat. It can't even be savored like a thornapple. But those feelings can be passed along to other people. Maybe to a youngster. Then even more will care about our wild things and places. At least that's a step in the right direction.

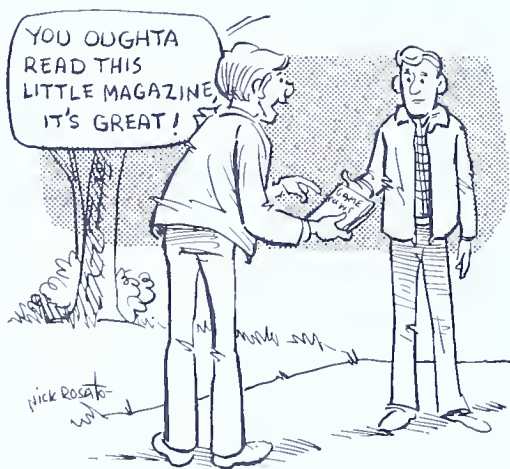


FIELD NOTES



Sounded Like Dinner!

BUTLER COUNTY—One night recently while patrolling near State Game Lands 95, I saw a weasel cross the road in front of me. I stopped nearby and in the periphery of the headlights saw it drinking from a roadside ditch. When it had finished and began running away, I squeaked like a mouse several times. The weasel came back to the side of the car repeatedly, searching with its keen ears and near-sighted eyes for the mouse. Failing to find it after several minutes, the weasel continued on its journey to who-knows-where. Little did it realize that the few minutes it had unwittingly spent with me was the special highlight of my day.—DGP Ned Weston, Boyers.



We Get Around

LUZERNE COUNTY—Jerry Holchak of Wilkes-Barre, a GAME NEWS subscriber, passes his magazine to friends when he's through with it. Recently, he was offered the magazine to read and was surprised to see it was his copy. He checked and learned that seven other persons had read it since he had. Excellent coverage!—DGP Bob Nolf, Conyngham.

Non-Hunting Slob

SOMERSET COUNTY—For six years, I have worked with one of our local farmers, trying to get his farm open to public hunting, as he had kept it posted for years. He said that people kept driving his fields, breaking fences, and causing problems in general. For the first time the past year, he has permitted people to hunt the property and never turned anyone down. There were no problems *until* April, when he heard a vehicle running the fields. He blocked the gate that was marked with a sign warning not to drive the fields. Shortly, out came a 4-WD vehicle driven by a young man who had been gleefully doing donuts in the light covering of snow on the now-muddy fields. His excuse: "Well, I'm from Florida, and we don't have snow down there and I thought it would be fun to spin around in." I now have one completely disgruntled farmer, one simply amazed young man who can't understand why he should be charged and one large block of land which will probably be posted again. At least the person involved is a non-hunter, and since the land was open to hunting, we can charge him under the Game Law for driving fields.—DGP Ronald J. Askey, Meyersdale.

Or Maybe A Thousand

RLSC—As part of our land management training we were given instruction in surveying. For one of the projects, each of us estimated a distance and then measured the correct distance by a specialized machine using a beam of infra-red light. After hearing the wide range of estimates and then seeing the actual distance appear on the machine, it is easy to see how so many deer hunters shoot their trophies at "500 yards, at least!"—Trainee Ron Stout.

Shapes in the Night

Recently CIA Steve Kish and I were treated to a rare sight while returning from a deputy game protector training conference in Sullivan County. We were traveling on Route 239 and had already seen several deer. Suddenly there in the headlights was another animal, brown, with bright eyes. As we approached, it slowly turned and left the road, but stopped only a few feet inside the woods where we were able to look at it for a few moments before it moved off into the darkness. The animal was a large bobcat.—LEA Robert H. Myers, Dallas.

Honest, Lady!

After completing a CPR (cardiopulmonary resuscitation) course at the Middle Creek Visitor's Center, I washed the practice baby manikin. While returning the nude doll to the meeting room I ran into this fine lady with eyes big as saucers. She didn't have time to ask, but spontaneously I explained that we were using the doll in our CPR course.—PR Area Leader P. A. Hilbert, Cleona.

Spring Kills

LEHIGH COUNTY—We always give much publicity to dogs killing game during the winter months, when these animals are under additional stresses due to the cold weather and sparse food. This concern seems to subside with the arrival of spring when indeed the toll of lost wildlife is probably much greater. In addition to pregnant animals killed by dogs, baby wildlife is brought home by pets after the pets had apparently destroyed a nest. Uncontrolled dogs and cats along with their feral counterparts seem to me to take their greatest toll at this time of year. When a nest is lost to one of these animals several adults have been lost from the future population, not just one as in winter kills. Concern about uncontrolled dogs and cats should be year-round. Their destruction is just not as visible in spring.—DGP Warren Quig Stump, Germansville.



Treehog

WESTMORELAND COUNTY—I had always heard that groundhogs could climb trees. On occasion I have even seen them in easily climbed trees such as spreading apple. I gained new respect for their climbing ability recently while crossing Chestnut Ridge. As I rounded a curve, a hog scurried off the road and over the bank. Much to my surprise, it appeared again about three feet up a 6-inch diameter poplar tree near the road. It had no trouble climbing straight up and even less retreating back to the ground as I vainly sorted through the accumulated clutter on my rear seat in search of my camera.—DGP Barry K. Moore, Saltsburg.

Proves it, All Right

Probably the saddest thing about the snow cover leaving is the amount of litter it makes visible. Everywhere along the mountain roads are cans, bags, and boxes of trash that slobs leave to prove their ignorance.—LMO George Thomas, Shippensburg.

2,000, Here We Come

The Farm Game Projects in Group I, Southwest Division, have been growing by leaps and bounds thanks to the efforts of the Farm Game Managers, Jim Way and Phil Donaldson. I'm happy to report that in April we went over 1,000 farms. That's a lot of hunting area open to the public.—LMO R. B. Belding, Waynesburg.

Instant Response

The Food & Cover Corps from State Game Lands 95 was putting out nesting devices on the Glades Wildlife Area. They took one goose nest out on the lake and anchored it. As they reached shore and picked up the next nest a pair of geese was already making ready the first nesting device to raise their family.—LMO Jay D. Swigart, Butler.

Back to the Basics

CENTRE COUNTY—While putting on a program for a Millheim Girl Scout Troop, I was trying to explain the habitat requirements of different types of animals. So that the girls could relate to what I was saying, I asked them what they would really need to survive. I was getting the answers I wanted: food, water, air, etc., when a voice from the back of the group chimed in with "TV!"—DGP George Mock, Coburn.



Just Looks at Pictures

LAWRENCE COUNTY—Clyde Gardner of New Castle seems to think that Lawrence County woodchucks can read. Clyde observed a woodchuck rooting through a pile of trash and noticed it took an interest in an old Playboy magazine. The woodchuck turned the magazine over, picked it up, and dragged it into its hole. I wonder if that woodchuck was a female scrounging for nesting materials, or a male decorating his bachelor pad.—DGP Gene W. Beaumont, New Castle.

Please—No Bottles

Every spring when we check our food plots, we inevitably find broken bottles that were targets of some unthinking shooter. I wish these people would stop and think that each rear tractor tire we cut on an unseen piece of glass will cost 20 resident hunting licenses. This money could be spent on planting or some other worthwhile purpose.—LM Ken Zinn, Jersey Shore.

Goodbye, And Thanks

RLSC—Every field officer in the state recognizes the name of Mrs. Eva Parolari. As secretary at the Training School near Brockway, she has been guiding trainees through to graduation for the past eighteen years. Her reputation is one of loyalty, dedication, perfection and thoroughness. This month, however, she is retiring. We are going to miss you, Mrs. Parolari. Thanks for your inspiration and for a job well done.—Trainee L. D. Haynes.

Memories and Faith

BEAVER COUNTY—Another hunting season has slipped by, but memories will linger: memories of the hunt, companionship, scenery, cold, rain and thrills. The solitude which each of us uses in our own way. The thrill of seeing a mother bear and her cubs, the sound of a ruffed grouse on a drumming log, the peenting of the woodcock—the birth of new life. We can see the management efforts on our Game Lands, and observe the benefits for all wildlife. We can walk where little has been disturbed. We can enjoy venison roasts and squirrel pot pies. These things are ours to enjoy if we respect the land and the landowners. Even though the outdoorsman is under fire from many quarters, I am certain that in the final analysis good judgment will prevail. We all know that this is the young person's world; I have every confidence in their awareness of and concern for our great outdoor heritage.—DGP George Szilvasi, Midland.

Doubles Everywhere

LYCOMING COUNTY—Two Shamokin hunters, Tom Dunkin and Ed Morrison, were surprised to see a pair of gobblers strut into view on the first morning of the spring turkey season. As the two hunters lay side by side, they fired simultaneously and bagged both birds. The ecstatic hunters were further surprised when they found that both birds had double beards.—DGP Bill Hutson, Muncy.



Ooops!

FOREST COUNTY—Upon checking out the Cooks Forest State Park's fishing pond for youngsters and disabled persons, I found a young lady about five years old fishing very seriously along the shoreline. I watched her attempt to throw her fishing line out into the water. Moments later I heard her exclaim, "Ooops!" She had flung pole, line, bait and everything into the water . . . I retrieved the pole, to find a very grateful young lady standing at the edge of the pond.—DGP Alfred N. Pedder, Marienville.

Missed the Point

SNYDER COUNTY—We arrested a young man this year for attempting to kill a deer through the use of an artificial light. He admitted his guilt, but complained of the high fines even though he hadn't killed a deer. He said, "I would have killed the x?"@ deer if I knew the price was the same." I guess some people will never learn.—DGP Dave Myers, Selinsgrove.

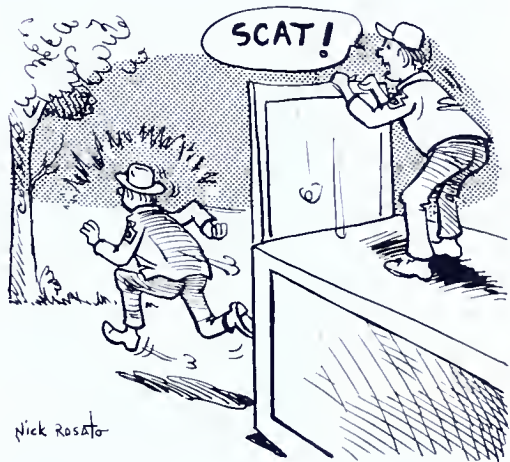
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Dangerous Predator

MONTGOMERY COUNTY—Not far from my house a mallard duck sits faithfully upon her nest of eggs concealed in the dim shadow of ornamental shrubbery. And each day thousands of motor vehicles pass within inches. For the shrubbery is contained near the edge of a concrete island which surfaces from the center of a busy highway intersection. Newly hatched ducklings face many predaceous animals but these may confront the most devastating of all wildlife killers, the family car.—DGP William Wasserman, Collegeville.

Ouch!

MIFFLIN COUNTY—Recently Dick Furry, assistant supervisor of training, was returning from Harrisburg in his brand new state car when a wheel fell off. Fortunately no one was injured. It was only a short time till several members of the Huntingdon office came up with their version of Kenny Rogers' popular song, "You Picked a Fine Time to Leave Me, Loose Wheel."—DGP Tim Marks, Belleville.



Need 'Em All

RLSC—The Game Commission each year stocks pheasants, a few turkeys and snowshoe hares. This year twenty-one new game protectors will be stocked throughout the State. This species is different, though—there is no harvestable surplus.—Trainee David R. Koppenhaver.

That Far?

BRADFORD COUNTY—"Field Notes" in the *GAME NEWS* certainly get a lot of attention. The Halstead brothers told me they had comments from all over Pennsylvania and as far away as Minnesota concerning the Field Note in the September 1977 issue about the fawn nursing their cow.—DGP A. D. Rockwell, Sayre.

Sanctuary

CLINTON COUNTY—On the first day of the spring gobbler season when Deputy James Keller stopped to check his trailer, which he uses as a camp, he found that he had an unwanted tenant. It seems that a female grouse had flown through one of the windows of his camp and set up housekeeping inside. When Jim went into the camp he found the grouse, an egg in the living room and needless to say quite a mess throughout the rest of the trailer. I suppose the grouse just couldn't find a safer nesting site than inside the camp of a deputy game protector.—DGP John Hancock, Lock Haven.



All Eggs in One Basket

BEDFORD COUNTY—I received a call recently from John James, a farmer from Everett. He reported finding a nest holding both turkey and grouse eggs. These grouse will have big brothers to look out for them.—DGP Tom Barney, Everett.

Anyone Can Help

BLAIR COUNTY—In April I had the pleasant opportunity of addressing the fourth and fifth grades of Blair Township Elementary School. While chatting with the youngsters, I was most impressed with the eagerness to learn and listen of these "citizens-to-be." Remember, if we want to maintain and improve on our environment, our leadership and guidance in teaching youth today are most important. One who has spent any time in the woods would be surprised how much help he or she could be when walking and talking with a group of youngsters.—DGI Don Martin, Hollidaysburg.

Different Strokes

COLUMBIA COUNTY—Picking up road-killed deer, removing the jaw bone and checking embryos are all in a day's work for us. A large doe was removed from Route 487. As I was removing the jawbone and embryos, I noticed that a number of garbage collectors/haulers were observing my every move. As I completed this unpleasant task, one man yelled to me, "I wouldn't take your job for anything." I looked at the man, winked, and said, "You know something, that makes us even."—DGP E. F. Sherlinski, Mifflinville.

Sure Are Thorough!

RLSC—We recently had a field exercise in law enforcement. The exercise involved a car containing two men who were supposed to represent individuals shooting a deer from their vehicle. Everything went well until a natural gas utilities truck appeared on the scene at exactly the time that a shot was supposed to be fired. Thinking that the truck might be part of the set-up we searched the service man's entire truck for firearms—including his lunch box. I can just hear the stories floating around the area: "Those crazy trainees tried to accuse me of shooting a deer and putting it in my lunch box!"—Trainee Clayton G. VanBuskirk.

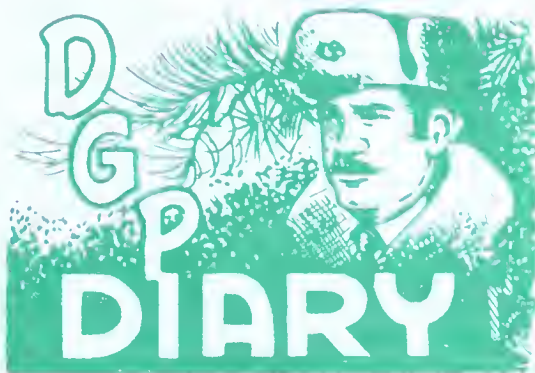
AS SUMMER surges toward its inevitable climax, my deputies and I are thrust into a frustrating sequence of night patrols. Deer are being shot sporadically throughout my district, and we are exhausting ourselves in futile patrols, working blind, with little or no information as to whom we are dealing with. Without the help of rural residents there is little chance of bringing jacklighters to justice. Not knowing which night to work, we try every night for awhile, then try to guess which one is best. Even if we do pick the right night, it is just luck to be at the right place at the right time, much less stop the right car. Rural people frequently are there when it happens. Often they know who the violators are, and a call to us right then will often do the trick.

August 1—A beautiful 6-point in velvet was found dead in a field near Bungy. The deer was shot first through the body. In the morning dew you could see where the violator drove right up to the kicking deer, put a finishing shot in the head, and drove off. We also heard that shots were fired near Lawrenceville late last night.

August 2—Today I received another shipment of mallard ducks. Deputy Stan Whittaker helped me release them on the Tioga River between Tioga and Lawrenceville. Here the river begins to slow into a series of backwaters and eddies as it meanders through a combination of wetlands and farms, ideal for mallards. Unfortunately, we're losing too much of our county's wildlife habitat to rural development, new roads and stripmining.

August 3—Chalk up three for the critics! Today I investigated bear, raccoon, and deer damage complaints. The bear damage was near Tioga. A wandering bear had walked into a shed, dragged out a 100-pound sack of scratch feed and, after clawing it open, ate some before wandering off. In Mansfield, a raccoon was raiding garbage cans again, and deer were devastating a cornfield near Lawrenceville. Altogether, these incidents left a lot of people more than a little upset about wildlife.

August 4—At 2 o'clock this morning I received a phone call that someone was shooting at deer from a vehicle near Millerton. I hurried over, but couldn't find any evidence of a kill. I stuck around for a couple of hours, hoping whoever shot would come back for a look, but to no avail.



By Jack Weaver

**District Game Protector
Tioga County**

August 8—We have been hearing of increased road hunting for woodchucks lately, so we've combined our evenings into woodchuck patrol and, after dark, moved to another part of the district for jacklight patrol. These patrols are more surveillance work than anything. It's just hiding and waiting for something to happen, which makes for long monotonous evenings. We've even taken to trying to identify the various star constellations. It helps keep us awake.

August 10—I've spent the past couple of days near State College with some other game protectors and the Hunter Education Coordinator John Behel. We're here to instruct at the Junior Conservation Camp sponsored by the Pennsylvania Federation of Sportsmen's Clubs and Penn State University. Youngsters spend a week encamped at Stone Valley, where they participate in both indoor and outdoor learning experiences dealing with environmental education. This is a wonderful experience for these kids, who learn what the various fields of natural resource management are all about.

August 15—Stan Whittaker called today to report finding two more illegally killed deer near Mansfield and Bungy. He said it looked as though one of them, a big buck, was shot by chuck hunters who were apparently afraid to chance dragging it out. Another, shot after dark, fell in some high grass and the guilty party probably couldn't find it. Stan also said he found parts of a third deer in the Tioga River near Blossburg. The hindquarters were removed.

At this, many people will become irate and say, "If I knew they were going to do that, I'd turn them in, but if a person is go-

ing to use the meat, well. . . ." However, the majority of persons who kill deer illegally intend to take them, but I wonder what their average of success is?

Recently DGP John Hancock told me a story which is all too typical. One night he received a call that two men just shot a deer along the Coudersport Pike. John got dressed and hurried out, but was too late. When the people who lived nearby turned on their lamp to call John, the culprits fled, leaving the deer. It was a buck. Next morning he received another call from some folks who live farther down the road. Someone in the same car killed a doe there. These people, who called John now, thought the violators were going to take it and didn't want to get involved. But this deer fell in the high grass and they couldn't find it in the dark.

John loaded it up and when he got home he learned of still another deer killed by the same persons! This time they were unable to find it in the woods and again witnesses didn't call until they were angered by the wasted 8-point. Three deer shot in one night, within two miles of each other, each witnessed by the various people living there, and only the last one called the game protector.

August 18—I've been on vacation, but last night Deputies Ed Signor and Dave Darby called me on the radio. They had been working on Maple Hill behind where I live and heard a shot fired from this direction. It was 10 p.m. I hurried to block off my end of the road and we thought we had one this time. But we didn't. Sometimes I think we're chasing phantoms.

August 21—Early this Sunday morning a local farmer found where someone shot

a deer in his pasture along Painter Run. When I got there the pool of blood was still warm and I could see where they loaded it. But no clues, not a one.

August 23—Do you remember the beaver case from March where a man stole the beaver out of another's trap? Well, it was finally concluded today in the county court. The defendant was found guilty and a heavy fine was imposed.

August 24—We held a Hunter Education instructor's meeting this evening in my office. This is important in order to coordinate our efforts for the programs scheduled this fall. We decided to run at least four programs throughout the district next month.

August 25—This evening twelve witnesses accompanied Deputy Stan Whittaker and myself to a magistrate's hearing in Elkland concerning last month's deer case. After everyone was finished testifying, I unloaded the bombshell—the results of the interview Deputy Whittaker and I conducted with one of the defendants. After that, the defendants wanted to plead guilty to killing one deer. Since two of the defendants were farmers, and to keep all those witnesses from losing work by going to court later, I agreed and the case was concluded.

August 30—This afternoon and evening I performed one of the more enjoyable chores of my job—strolling through SGL 37 checking food conditions. I was pleased to find numerous acorns again this year. Wild apples and autumn olive were also producing well. It looks as if game food will be reasonably abundant again this year.

GAME NEWS Cover Prints Available

In answer to numerous requests, we can now supply a selection of GAME NEWS covers in a size and format suitable for framing. A set of four covers, all by internationally-acclaimed wildlife artist Ned Smith, now is available. These are full-color prints, enlarged to 9x12 inches on 11x14 heavy, coated paper, without the GAME NEWS logo. The set includes Ned's woodcock from the April 1974 issue; the woodchuck from July 1974; the doves from September 1972, and the buck and doe from the December 1971 issue. These prints are not available individually. The price is \$3 per set, delivered. Make check or money order payable to Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120.

THE showing is nightly.

It runs over in Slaybaugh Valley (not the valley's real name; for selfish reasons I don't want the show sold out, not even for one night), and it starts at eight, give or take an hour.

Rough clothes are *de rigueur*: boots, brown canvas-duck pants, a green hamois shirt—tan will do if your greens in the wash—and over the shirt a mesh camouflage parka, preferably with hood. I also bring binoculars (good ones, as I like to watch the actors closely) and a bottle of Cutter's to keep the bugs away. Ample parking can be had down by the old iron furnace, or under the maples standing guard at Gray's Cemetery.

When I arrive, I ease the truck door shut and drift toward the woodlot. I don't scuff my feet, I don't slap gnats, I don't cough.

Last Tuesday, the first act began as I walked along the edge of the cornfield. A woodchuck was feeding in the alfalfa beyond the tall, green-waving stalks. I squeezed inside the first row of corn, which ran parallel to the tractor road. By walking while the woodchuck fed and keeping still when it looked around, I was able to get a fine seat—so close I didn't even have to use the binoculars.

This woodchuck's specialty was pantomime. First he gave his impression of a bear: he shuffled, he shook his head, he looked quizzically about, he snorted a bit. Next he moved onto the tractor road, sniffing and weaving in fair imitation of an overfed, underworked hound. Then he got up on his hind legs, balancing nicely by using his belly as a counterweight, and gave a fine impression of a rotund, self-satisfied little man—perhaps a banker or undertaker. I whistled sharply by way of applause, and he was gone behind a waving curtain of grass.

Half an hour passed before the second act got underway. By that time, I'd settled into the best seat in the house, a rounded, foot-deep ditch screened on both sides by high foxtails. To my left was an alfalfa field; to my right, the stubble of harvested wheat. I waited patiently, entertained by monarch butterflies riding the evening



Chuck Fergus

breeze and a red-tailed hawk that flapped out of the woodlot, towered to a speck on the face of the sky, and drifted east.

The sky was flawless blue. If this night turned out like the previous two, the breeze would vanish by dark. A heavy dew would coat the land and cold air would slip like molasses into low spots. Night before, there'd been a frost in the Barrens—a few miles south of Slaybaugh Valley—according to a man who is working there. He said it was light, a "water frost" which did no damage to vegetation, but a frost nonetheless. This is the third week in August.

I looked back out in the stubble field. There, burnished in the slanting sun, was a fox: as usual, the act had begun before I'd even been aware of it.

I focused the binoculars. The fox was a vixen, and she was all angles—sculpted ribs, pointed nose, tapering shanks. Her eyes glittered; her paws and legs were black, as if she'd walked through a burned-over field.

She trotted diligently through the stubble. Her ears were directed forward, and now and then she would stop, cock her head, and sniff. Finally, she tensed and jumped. At the top of her leap her body curved like a trout over water, and when she came down her front feet lit on a pile of stalks which the harvesters had left. Catlike, she darted left and right and came up with a vole in her mouth. She dropped it,

pawed, picked it up again, and slung it into the air.

She left the rodent where it fell and went back to patrolling. A few minutes later, she killed again. This time she took her prey to the woodlot, reappeared a few minutes later, picked up the first vole, and made off with that one, too. It was too late in the year for her to still be feeding pups, so perhaps she was caching her take—burying it, then marking the spot with urine. I found myself wondering why; in August food is everywhere, and lean times are still far off. Perhaps she'd felt the frost, too.

Her act had three more scenes, each a variation on the first, each acrobatic and full of drama. She made her last kill after a series of side-to-side leaps, a moment of waiting—body tense, tail twitching—and a pirouetting, slashing pounce. She shook the vole and let it fall; then she cocked her ears, lifted her head, and looked at the sky. A second later, I heard it, too: the muffled wingbeats of a flight of birds. It sounded, appropriately enough, like applause.

While watching the fox, I'd become aware of the deer—had glimpsed them filtering onstage, emerging from the woodlot and fading in and out of the corn—but hadn't paid much attention. (I see foxes a lot less frequently than deer.) Now, I turned my binoculars

toward the alfalfa field and twisted them into focus.

About a hundred yards away stood doe and two fawns. The doe was looking in my direction—perhaps she'd seen movement when I turned. The sun was lowering behind me, though shining in her eyes and making further staring useless, and probably downright uncomfortable. With a shake of her tail she went back to feeding.

The fawns were carbon copies of each other, still long-legged and slightly blunt-nosed; their rusty coats were marked with pale spots which would fade away during the next month. The doe calmly, then kicked up their heels and bounced through the grass like gazelles across the veldt.

Something skittered over my head banked, and planed off my field of vision. As it swept back, I saw it was barn swallow. It had a long forked tail, sharp-elbowed tapered wings, and an orange belly.

The swallow circled tightly, mouth agape as it hunted rising insects. Through the binoculars I saw the insects fleetingly, as one sees *musca volitantes*, those curled, transparent spots that float the surface of the eye and out beyond the insects, over the alfalfa, the fencerow, and the oats field of the next farm, scores of swallow twisted in flight.



—DOUG PIFER

The crowns of the woodlot oaks and apples had begun to flame a pale, green-tinted orange. Behind me, the sunset was competing for—and finally winning—my attention. I turned. The sky was pale blue on the horizon, darkening overhead, grading to a deep, dark blue. Down the valley the ridge was sharp, the trees distinct as the warp of a rug. The sun rested on top of the mountain, outlining ridgetop trees and breathing its last glow. By averting my vision, I could detect the sun's downward crawl.

So much to look at—so little time. Impatient, cheating myself of the sunset, I rolled back onto my belly.

More deer had joined the herd; an even dozen ranged over the field, some lying in the grass, others standing, tail-tagging and cud-chewing. They were lazy and careless. It was not yet time to sit, or fear men, or search seriously for food. Centerstage, a pair of bucks usually shook heads at one another. Both had narrow, forked racks, which were in velvet. They sparred, but never actually touched antlers. One closed in and began to lick the neck, ears and muzzle of the other.

Fine 8-Point

Movement drew my attention to the truck at the end of the field. A spike buck slipped from the woods. Behind him came a second buck, this one with more of a rack, then a third, and—at the rear of the entourage—a deer with antlers wide and tall and swollen with velvet. The year before, a fine 8-point had run Slaybaugh Valley; I had hunted him unsuccessfully, hadn't heard of anyone taking him, and felt sure this was the same deer. The shape of the antlers was similar—main beams curving out from the brow points, then angling up sharply—but this year his rack branched into 10 points. He stood on the fringe of the herd, ears working like radar dishes.

The light was beginning to fail, and fireflies signaled over the alfalfa. The rest of the deer fed around me, occasionally out of sight in little dips in the field. But the big buck hung back, and as I watched, details began to go: his back dissolved, the outline of his back



faded, and finally I couldn't tell when his head was up or down.

I lowered the binoculars.

So. The show was over, at least for me. Crickets shrilled, and katydids, and down by the sinkhole a bullfrog gave its vibrating call. I could have stayed and listened for owls, or waited for a moon to throw light on the scene, but I'd had my fill of looking.

I rose to a crouch, sneaked back down the furrow, and gained the shelter of the corn without disturbing the deer. Walking quickly, I descended into a hollow lined with cold air. Then I was out of the corn and on my way up the last hill, my boots thumping on the wagon road.

Behind me, in front of me, around me, I knew the show was still going on. Going on in all its splendor, its intricacy, its various planes, its mindless self-perpetuation. All of which no longer suggested a play, but a circus—a three-ring circus inside a three-ring circus, ad infinitum.

It was there, going on, and it would always be there going on. It would be there when I started the truck. When I got home. When I made a sandwich. When I watched the 11 o'clock news. When I went to bed. When I woke in the night and closed the window against the chill. Characters, whole casts would be out there playing in dead earnest, playing, fading, relinquishing the stage.

The showing is nightly.

Young, In Spirit

By Keith C. Schuyler

Photos from the Author



ART YOUNG—bowman, showman, and one of archery's greats. An early big game hunter with the bow, he was one of the men for whom the Pope and Young Club was named.

"HE WAS A tall, well-built fellow who was made more conspicuous by a group of kids surrounding him."

So was described Arthur Howard Young by a newspaper of his time. But archers everywhere recognize him as one of the men for whom the Pope and Young Club, the archery counterpart of gunning's Boone and Crockett Club, was named. Although immortalized by

Dr. Saxton Pope in his classic *Huntin' With the Bow and Arrow*, little else generally known about Art Young.

Both were firmly ensconced in the Archery Hall of Fame in 1973, and their achievements are secure. But he became further interested in Young through association with his grandson Charles Arthur Young Jr., of Kington, Pa. Although a native of San Francisco, Chuck has been a Pennsylvania resident since the age of 22. Strangely, it wasn't until 1969 that he became aware of the importance that archery attached to the famous grandfather he had never seen.

He was browsing through a bookstore in Phoenixville that year when he came across a copy of *Bow and Arrow* magazine. On the very last page was a book review of *Ishi—In Two Worlds* by Theodora Kroeber. He recalled his father had frequently mentioned Ishi, who was considered to be the last survivor of the Stone Age and the Yana, or Yahi, Indian tribe. In fact, Ishi became the catalyst in a three-way friendship that grew among Arthur Young, Dr. Pope and Will Compton, who had learned from the Sioux Indians how to shoot the bow. Chuck followed his curiosity and today is vice president representing associate members, in the Pope and Young Club.

Art Young was born in 1883 in Kelseyville, Calif., the fourth of five children. There apparently was little eventful in his early life, as he worked at a number of jobs before becoming circulation manager for the San Francisco *Call Bulletin*. Meanwhile he had become quite proficient with guns both rifle and pistol. It was a chance meeting with Will Compton at a Japanese archery gallery in the Panama Pacific Exposition that changed his life.

This meeting took place about 1913

two years after Ishi had been discovered. Compton, who had shot his first deer with the bow at age 14, met Dr. Pope through the physician's interest in and medical care of the Indian. He introduced Young to Pope, and he also taught the newspaperman to shoot the bow. Close friendships developed among the three.

Interestingly, Compton was supposed to be one of the bow hunters on the historic trip to Yellowstone National Park in May, 1920, to collect grizzly bear specimens for the museum of the California Academy of Sciences at Golden Gate Park in San Francisco. However, at the last minute Compton was prevented from going because of illness in his family.

Although all had taken numerous animals with the bow, this was to be the ultimate test. Detractors had argued that the bow was only effective against "defenseless" creatures. Pope and Young obtained five specimens for the museum. The first almost ended the hunt for them when a bear charged and was turned back by their gun-toting guide, Ned Frost, within eight yards of them. However, they went on with only their homemade bows and arrows after Frost was forced to leave, and they collected the entire family of specimens, including a cantankerous old boar that weighed over 900 pounds.

After this hunt, which gained national attention, a group of entrepreneurs financed a moving picture of an Alaskan hunting trip featuring Art Young. Although the finished film ran only 30 minutes, it was over two years in the making, from 1922 to 1925. It required two trips to the northland, and some remarkable footage was obtained by the cinematographer, Jack Robertson. Chuck Young has a copy of the film.

It was my pleasure to see this film, "Alaska Adventures." Despite its age, it

is excellent entertainment. The most thrilling sequence shows Art Young shooting a Kodiak bear, one of a group that was running by through a meadow of high grass. Dr. Pope provides a brief insight into these excursions through a chapter in his aforementioned book.

Showing this movie, along with a personal presentation of archery, provided much of Art Young's livelihood through the remainder of his life. However, there was much more to his exploits with the bow and arrow.

In 1925, Art Young, Dr. Pope, Leslie Simson and Stewart Edward White journeyed to Africa to test the bow on bigger game. In addition to lesser museum species and camp meat, they took five lions with their bows alone. The largest was shot by Art Young, and its hide is among the mementos held by his grandson. The two hunters were backed up by rifles, which were necessary to kill numerous lions that charged. In a second book about this trip, *The Adventurous Bowmen*, Dr. Pope shows some lack of enthusiasm, labeling such hunting as, "too near the primitive to be tolerable."

Postmortems

Saxton Pope's profession as a surgeon was utilized in detailed study of most animals shot by him and Young. He did postmortem examinations on many of the game animals killed to determine the effects of the arrows.

It must be remembered that the tackle they carried was made by these hunters. Arrows and arrowheads were designed for the type of game they expected to encounter. Their 75- to 85-pound longbows were of yew. Much of their time on a hunt was spent just keeping their tackle in good repair. Keeping broadheads razor sharp was a daily chore.

Even Ned Frost decided to take up the bow after guiding the two in Yellowstone. A copy of a letter from Frost reads: "I'll back your info on the killing power of the bow to the limit. I feel right now that I can down an elk; it's an old bull elk and I am sure going to try it out this fall."

The African safari appears to have been the last major trip that Pope and



Young made together. However, Young went on a bow hunting expedition to Greenland in 1926, according to his grandson's records, with George Palmer Putnam, of Putnam Publishing Co. Putnam was the husband of Amelia Earhart, famous aviatrix who was lost on a flight with Fred Noonan in July, 1937, in the Pacific Ocean.

Purpose of the Greenland trip was to collect specimens for the American Museum of Natural History in New York City. Among the animals taken was a polar bear, but there appears to be little for the record of this trip.

Initially the Alaskan film was distributed in regular movie houses across the country by Pathé Films. Later, Art Young used it as part of his presentation and his message to young people. He had a very strict code of morals, and Dr. Pope once said that he had to swear for both of them. Service clubs, Boy Scouts and sportsmen's organizations made up most of his audiences.

His message to youngsters was, "Be fair to your body by keeping away from alcohol and tobacco until those bodies are developed." He took no issue with adults who wished to drink and smoke, but he pointed out that "if you abstain in youth you will be better equipped to enjoy them after attaining a mature age."

Young and Bear

A scrapbook kept by Young's sister indicates he traveled over much of the nation with his pictures and his message. Fred Bear, who gained fame in another generation as a bow hunter, was inspired by the Alaska film. After seeing it in Detroit in 1927, he met Young and the two became well acquainted. Bear, a native of Pennsylvania, used some of the information gained from Young to get started in the manufacture of archery tackle. His initial venture was making bow cases, and one of the first went to Art Young. It is still treasured by his grandson.

In turn, it was a gift of a Fred Bear bow that started Chuck Young in archery.

Although there is no record that Art Young ever hunted in Pennsylvania, there is evidence that he almost en-

gaged in a tournament with Dr. Robert P. Elmer, another Pennsylvania bowman famous in his own right as an author and target shooter. A letter sent to Dr. Pope in 1917 which was turned over to Young indicated that a battle of the bows was in the making:

"Your letter about Art Young fills me with the greatest enthusiasm. He is exactly the man we have all been looking for these many years. Rendtorff was just as good, or perhaps better, but he was a short sport.

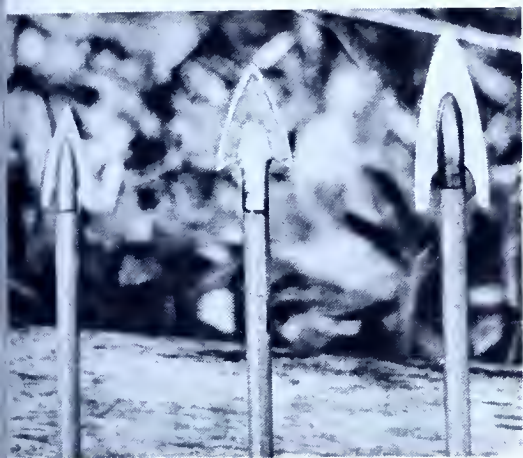
"I will look forward with eagerness to meeting Young in a championship contest. He can beat me without any question, but probably I can give him enough of a run to make him do his best. If the weather conditions are not too unfavorable, we may even manage to hang an American record above old Ford's [another archer of note]. I will set about getting the best tackle I can find and will try to be as careful as I can in my preliminary training so that good form will come without effort in the crucial test. I am sure that for the first time in the history of the sport, four men will make over 1,000 in the Double American Round. [It is not known who the other archers were to be.]

How I do hope he will come and it may be my privilege to shoot on the same target with him. . . . The Sioux loose idea is highly interesting. Of course, I would not dare change my loose at this late date unless I were persuaded to do so by a very decisive defeat.

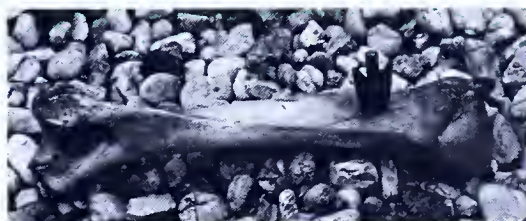
Sincerely yours,
Dr. Robert P. Elmer

Pope had made a notation on the letter for Art Young's benefit. "Go East if you can, Young, I will help you." But the match never came off. Comments in a letter by one Samuel G. McNean of Columbus, Ohio, provide a clue to the problems encountered in that day with relatively primitive equipment.

". . . It is the more remarkable when one considers that Young draws low as he would need to do to shoot the York Round well. What I mean is that the two men who ever made good big



CLASSIC FORM with his handmade longbow is shown by Art Young, above. Buckskin clothing and back quiver seem romantic and old-fashioned now, but were highly utilitarian. Left, from top, handmade hunting heads for big game; National Field Archery Assoc. medal given in Young's name at the Chicago World's Fair, 1934; Chuck Young with grandfather's bow and Dall ram taken in "Alaska Adventure." Below, legbone of lion cracked by Young's broadhead after it passed through body of the dangerous African cat.





BIG GRIZZLY ON LEFT was taken by Young in Yellowstone area for this exhibit at California Academy of Sciences, Golden Gate Park, San Francisco.

scores in short ranges regularly, drew to the lower part of the face proper and not to a point under the chin. . . . The French, I am told, draw to the corner of the mouth . . . even at 60 yards, the point of aim is above the target with weak bows and heavy arrows when drawing to the corner of the mouth. Rendtorff's and Maxin's draws . . . [were to] the hollow between the mouth and chin."

That Art Young's influence in archery was felt over a large part of the country is beyond doubt.

Even in 1918, with World War I only two weeks behind, the San Francisco *Examiner* published a four column photo of Pope and Young with a black bear they had taken with their bows. They also made it big when in Africa in the *African Standard*, "guaranteed the largest circulation of any newspaper in Kenya, Uganda, Tanganyika and Zanzibar."

After Pope and Young were separated, Young began writing to some extent in national magazines. One of his last was "Killing Power of the Feathered Shaft," March, 1935, in *Sports Afield*.

According to the records, that article appeared one month after his death on February 12, 1935, of a ruptured appendix. He was 52. It was not the type of death that one so robust and daring

would likely have chosen. At the time he was residing with John Albrick in Homewood, Ill., also a bow hunter and the taxidermist who did the grizzly bear exhibit in Golden Gate Park.

Aside from such efforts as this presentation, the name of Arthur Howard Young will likely live on for a long time to come, for Chuck Young's eldest son carries the name of his great grandfather.

Among the many mementos that Chuck Young has retained are fourteen bows, some of which were used by his grandfather on various hunting trips. Several arrowheads and arrows remain and are indicative of the considerable time and energy necessary to produce them. One monstrous arrowhead is believed to have been planned for use on a rhinoceros, but it is so flimsily constructed that it is unlikely it was ever tried. Two head mounts, one of a black-tailed deer and another of a dall ram, are included in the collection. Both at one time ranked well in Pope and Young Club records.

It was a special thrill and privilege for me to sift through the yellowed archives of Art Young for this somewhat intimate glimpse into his colorful life. We extend special thanks to Chuck Young for this, as well as for permission to copy some of the photos depicting Art Young's adventures.

Some Thoughts On Scopes

By Don Lewis

Photos by Helen Lewis

MY FIRST association with the rifle scope was disappointing and short-lived. It must have been around 1934 when my brother Dan hauled me out of bed after midnight to show me a 22 rimfire rifle complete with scope he had traded a favorite shotgun for. I'm positive the rifle was a Mossberg Model 46, and the scope had to be a Mossberg Model 6 according to some old records I've uncovered. I was so excited I barely closed my eyes for an hour. When sleep hit me like a ton of bricks, I was drawing down on my hundredth imaginary barn rat with the new outfit.

With all the hopes I had for the scoped Mossberg, things didn't get off to a good start. We couldn't zero in the new rifle no matter how much we turned the metering adjustments. Fact is, we couldn't hit a bean can at 30 yards. Dan finally gave up in disgust, but I stuck with the sight-in fiasco until I was nearly out of shells. When I zinged a hole through the bean can, that was good enough for me, but when Dan missed a fat chuck later that day, the little scope was doomed for a forgotten dresser drawer.

Rats were common around every barn, and one day I stuck the scope back on the Mossberg for a new attempt. When it appeared the rifle was sighted in, I slipped toward the barn. Long before I was in open-sight range, a rat scooted out of the barn and under the hog pen. I dropped down when it made an instant return and disappeared under the barn and sat for a moment, staring at the hole the rat had hit on the dead run. Suddenly, and very clearly, I saw the rat's head. I froze the crosswire and squeezed the trigger. Dirt flew and the rat disappeared, unscathed. But it wasn't the miss that left me staring; it was the clear picture I had of the rat's head.

This seemingly unimportant episode left an indelible imprint in my mind,



THREE GREAT squirrel outfits: KKJ Walther with 6x Redfield; Remington 541 sporter and 6x Weaver; M54 Savage/Anschutz topped with Bushnell 3-9x. All are highly effective on bushytails.

and no matter how much the scope was downgraded, I couldn't forget how much clearer I could see with one than with open sights. I wasn't an immediate convert, but I made the weakest arguments in my area against the scope. When I entered the realm of chuck hunting, the scope became an essential part of my hunting equipment.

The rifle scope is by no means a 20th Century invention. History doesn't clearly reveal just how far back the tele-

scopic sight was used, but Sir Isaac Newton of Law of Gravity fame is claimed to have fixed one to a gun for long-distance shooting in the early 1700s. The scope was put to real use during the Civil War, and sharpshooters on both sides relied heavily upon scopes of high magnification. Morgan James built sharpshooter's heavy-barrel rifles mated with full-length scopes, and the Civil War sniper was deadly well beyond 200 yards.

It seems reasonable that after such a display of long-range accuracy with the scoped rifle, the military would have gone all out for strategy designed to utilize the full potential of the optical sight. This doesn't seem to be the case, however, and following the Civil War it was the buffalo hunter who used the scoped rifle to deadly effect. Neither World War saw a high percentage of sniper action, but both Far East conflicts during the last two decades made full use of the hidden sniper who could play havoc with the enemy.

There's no question the military has contributed much to the shooting fraternity in ballistics and rifle design, but I can't believe the armed forces greatly influenced scope design and

use. It was the hunter and competitive shooter that enhanced the scope's stature.

The rifle scope is well accepted today, and each year open sights are seen less frequently in the big game woods. As mentioned, the scope was not an overnight success, and the fact that the open sight had done an acceptable job throughout the years made it difficult for many hunters to recognize the value of the optical sight. In reality, there endured for years an air of suspicion about the durability of the scope under hunting conditions. There was some basis for these suspicions. Fogging was common, and a belief existed that even the slightest bump or jar would knock the rifle scope out of alignment.

See-Through Mount

This distrust went so far and gained so much publicity that several decades ago a variety of quick-detachable mounts enjoyed a great deal of popularity. Recently there has been a resurgence in their popularity, including the latest see-through mount type. The hunter automatically assumed if the weather turned foul, scope problems would develop. Quick detachable mounts such as the Echo, Griffin & Howe, Jaeger, and the Pachmayr Lo-Swing assured the hunter the scope could be quickly removed or swung out of the way so the open sight could be used.

With the ruggedness and dependability of the modern scope, I see little need for any quick-detachable or swing-type mount. On the other side of the coin, I won't argue with those who feel obligated to use one. I've tested them all, and for the most part, they work. I happen to like my scope mounted as securely as possible, and I have deep suspicions that some detachable mounts won't bring the scope back to zero. I have proved this a number of times at the range. As a gunsmith, I guess I'm most impressed with the Jaeger mount. It's simple to use, and the workmanship is unquestionably good.

With a wide variety of quality scopes on the market, it should be easy to select the proper one, but that isn't the



BUSHNELL 4-12x on Lewis's heavy barrel M700 Remington 6mm is fine choice for chucks at any range. Rifle rest by Jim Cravener, Ford City, Pa., is fully adjustable, provides 2-point support.



case. I think the scope dilemma in one form or another adds up to the "most asked" question I hear over the summer months. It's safe to say the variable-power scope is the best seller, and probably the 3-9x leads the pack. The 3-9x actually serves both the big game and varmint hunter, but where most hunting is done in dense brush or heavy vegetation, one of the lower power variables would be a wiser choice.

Power seems to be a way of life with many hunters. The trend toward the Magnums for deer is one positive sign; another is the belief that the higher the magnifying ability of a scope, the better chance the hunter will have for success. Target shooters have always used high powers, some going up to 30x, but remember, they shoot under controlled conditions at a known range. Many a varmint hunter made the mistake of slapping a 20x target scope on a flat shooting 224 outfit only to find it was more of a hindrance than an asset.

After about 40 years of varmint shooting, I've reached the conclusion the chuck hunter doesn't have to go beyond 12x, and often doesn't even need that much. I've recently been using several Bushnell items which bear out this feeling—10x50mm Explorer binoculars and a 4-12x Bushnell Banner scope. This size binocular, which is somewhat higher in power than many recommend, is highly useful for examining small objects such as a chuck's head at long range. Though the field of view with high-power units is less than with low-power ones, this is no problem at the greater distances common to varmint shooting, for of course the field grows with distance. From the chuck shooting I've done so far with the Banner mounted on a 6mm Remington 700 BDL, both optics have sufficient power even at 500 yards.

On the Pennsylvania deer outfit, power shouldn't be the paramount requisite. The 4-12x variable will satisfy any chuck hunter's needs in the power category, but I can't think the deer hunter would gain any appreciable amount with the big variable. He would be far better off with a more compact scope geared for the lower power ranges, and I'll use a personal experience to prove my point.

I was hunting for doe with Bill Nichols from De Young, and Bill had posted me in an area that was dense with trees and heavy undercover. About an hour after Bill had left to put on a one-man drive, I caught sight of a deer approaching. I was using a Ruger No. 1 single shot 7x57mm Mauser scoped with the very neat Weaver 1½x4½x. I knew it was going to be tough shooting, but I had no problems determining it was legal game. At 4½x, I kept track of the sneaking doe even when she was well past the 150-yard mark.

Due to the rolling terrain and heavy vegetation, I didn't have a chance to shoot until the doe was about 85 steps away. Since the deer was ambling along at an even pace, I reduced the power some to gain more field of view. When the doe paused to survey the landscape, I planted the Dual-X reticle on the ribcage and squeezed the trigger. The handloaded 175-grain Speer Grand Slam slug hit the lung section, bringing a successful end to Nichols' drive.

Reticle Selection

Instead of all the hassle over the power question in scopes, more thought should be given to reticle selection. The scope user has always been blessed with a good selection of reticles. Right after World War II, scopes such as the Ajack, Boone, Fecker, Voigtlander, Zeiss, Litschert, Oigee and Noske were available, along with the regulars like Lyman, Weaver, and Unertl. Among them could be found every conceivable type of reticle. The crosswire was probably the most popular.

A dramatic change took place when Bausch & Lomb brought out the tapered reticle for their BALvar 2½x8x.



HUNTING-TYPE scopes used by Lewis and Chuck Fergus, center, are handy and effective for most shooting, but Lewis likes target models such as Unertl, far right, for longer shots.

Prior to this breakthrough, the variable power scope had the problem of apparently enlarging the reticle size when the power was increased. There was no actual change in the amount the reticle subtended, but optically it appeared there was. This occurred because the reticle was installed in the focal plane of the objective lens unit. The Redfield Scope Co. solved this problem by installing the reticle in the focal plane of the ocular (rear) lens, causing the reticle to appear smaller when the power was increased. This pleased both big game and varmint hunters as it gave a conspicuous reticle at low power, a finer one at high power.

Plex Design

For some years now a unit which I will simply call the "Plex" design has been gaining popularity; in fact, it is quite likely the most popular style available now. It consists of four heavy posts projecting about three-quarters of the way into the field from top, bottom and both sides, with thin crosswires extending from the posts to form a conventional aiming point. The posts are conspicuous in any light, leading the aiming eye to the crosswire intersection, and of course the thin crosswires do not obscure the target at any range where it might be hit.

Finally, the center dot reticle is gaining followers. The first dot reticle I saw was so small I wondered how it could be seen in a dark setting. My argument

that the dot should be larger didn't impress the crowd in the gun store, and even today, small dots are the choice of many big game hunters. The small dot is primarily for the target or varmint shooter; hunting deer with a 1/4-minute dot is meaningless. A deer hunter pushing through brush with a 9mm Winchester 30-30 could very well use a 4-minute dot (covers approximately 4 inches at 100 yards) or even a 6-minute dot. The 7mm Remington Magnum user watching for a 300-yard shot should have nothing smaller than a 2-minute dot, and I'm of the opinion that a 3- or 4-minute dot would even be better.

Last squirrel season, T. K. Lee Company of Birmingham, Ala., installed two dots in my 6x Redfield. The center dot covers 2 minutes of angle, and six minutes of angle below is a 1-minute dot. Believe it or not, they are not installed for rangefinding purposes. In a sense, I have dual reticles that make the scope a perfect combination for both squirrel and varmint. The 2-minute dot covers just one inch at 50 yards, and that's not too large for good squirrel shooting. The one minute dot is ideal for 250-yard yards with the 222. Also, I think the 218 Bee and 22 Hornet buffs should take a strong look at the 1-minute dot.

It's my belief a dot reticle of proper size is superior to other types, especially for those of us who have a few years on our backs. In tests I tried in a



heavy stand of pines on my range, I could find the dot more easily than the other types of reticle. This is not a condemnation of other reticles, but only a point of view. The big game hunter's main criterion in selecting a dot is to keep it large enough. I'm giving a lot of thought to having a super large dot of around six minutes of angle installed in my 4x scope just in case I need a setup to take West for elk or moose. The Dual-X that the Weaver worked like a charm on the doe shot, but I feel a large dot would have been better for a running shot.

With all that a properly mounted high quality scope has to offer, much of its potential can be eroded by a see-through lens cover. It's a fact that scopes are handicapped by snow and rain. It's next to impossible to see through a scope that has water or flakes of snow on the front lens. This makes it easy to see why a lens cover is needed, and it's only reasonable to assume the see-through style would have a definite edge over the solid type. In fact, this is true. The see-through lens does offer the hunter a shot if game is jumped unexpectedly. But that's about where it ends.

Installing see-through covers is actually adding two extra lenses to the scope. But there is a vast difference between the quality of the scope's

lenses and those in the see-through covers. I don't want to get wrapped up in the technical ramblings of a scope's innards, but doesn't it seem reasonable not to destroy the scope's high optical qualities by adding inferior lenses on the front and back? I'm not against lens covers per se, but the see-through type is strictly for close, emergency shooting. Where the shot is long or planned, the covers should be removed.

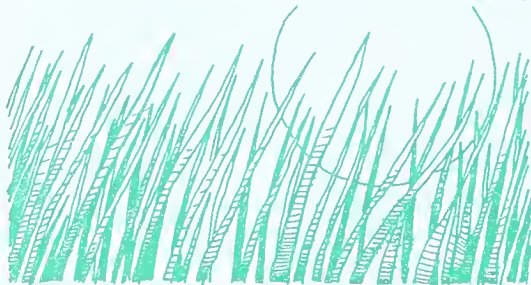
Finally, the scope is no better than its mounting job. Just sticking the scope on and tightening the screws is the first step towards disaster. One of my time-worn phrases implies that the scope is as personal as the toothbrush. If it's worth stashing a little money away each month for a scope and mount setup, then a scope is worth installing properly and personally. From the eye relief to the eye focus, it all must be mated to the person using the scope. Anything short of this defeats the purpose. Set the eye relief while wearing a heavy jacket; be certain the reticle is sharp and black. And finally, familiarize yourself with the scope by live firing at the range.

The scope is not just for aging eyes; it's a powerful aid to good shooting both at the range and in the woods. The right scope properly mounted on your favorite deer rifle will increase your chances for success tenfold or more once you learn how to use it. With all that a good scope has to offer, why settle for anything less?

In the wind

toni williams

information writer



A cooperative study led by a laboratory of the Northeastern Forest Experiment Station will develop guidelines for the financial aspects of reclaiming "orphan" stripmined lands. This, they hope, will help reclaimers decide the best course of action in reclaiming such areas.

Wildlifers in South Dakota are trying to solve two problems at once. Prairie dogs' holes are hazards to cattle and large towns can impoverish an area's plant and animal diversity. The swift fox was almost eliminated in the last century by trapping and poisoning. But swift fox populations have increased in response to management, and now wildlifers plan to live-trap and transfer some to private lands with prairie dog problems and cooperative owners.

The U.S. Forest Service has announced a new, more flexible fire control policy. Instead of putting out all fires automatically as soon as possible, the federal foresters may now decide when and where and how much to control wildfires. They'll base decisions on land management objectives on the area involved, and the values "at risk." If, for example, an area were slated for burning in the future to favor certain tree species, a wildfire there might not be put out.

Two federal agencies have issued joint guidelines for deciding when and where stream-channelization should be used. Since one of the agencies is the U.S. Fish & Wildlife Service, the guidelines emphasize impacts on living organisms.

"Acid rain," a condition in which sulfur compounds in the air combine with moisture to produce sulfuric acid which then falls as rain, is appearing in the West. Primarily a northeastern problem in this country, acid rain has occurred in increasing numbers of other areas. The first acid rain recorder in California appeared recently in the Sierra Nevada mountains.

A congressional report says the cost of atomic power would be more like that for other alternative sources if the consumer had to pay for atomic waste disposal. It is currently among the cheapest sources of electricity. Industry sources disagreed with the report. The report also stated that solar energy would be best for the nation in the long run. An independent panel of scientists reviewing nuclear waste disposal found that wastes had been handled safely and efficiently in the past, and that the waste disposal problem was costly but "manageable."

A complex world market situation has depressed demand for iron-containing scrap metal. A backlog of ferrous discard which aren't being recycled is growing by an average of more than 13 million net tons a year. That's a lot of old refrigerators, abandoned cars and other eyesores. These big litter items will dot our landscape increasingly in coming years with no economic incentive to recycle them. Oh well, at least they provide cover for a few species of birds and mammals.

Minnesota had its first-ever turkey hunt this year. Wild-trapped turkeys were received years ago from Arkansas, Nebraska and South Dakota in exchange for ruffed grouse, bear and walleye fry from Minnesota. (It's uncertain if turkeys were ever native there.) The population has increased to about four to six thousand birds, and 420 computer-selected Minnesotans hunted them this spring.

The U.S. Fish and Wildlife Service has reclassified the gray wolf in Minnesota from endangered to threatened. In Minnesota, the wolf has increased in numbers and range, and preys upon livestock. Trap-and-transfer programs have worked poorly because of wolves' highly social nature and pack structure. The gray wolf remains on the endangered list in the rest of the "lower 48" states.

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COVER PAINTING BY J. M. ROEVER

Doves are so common in suburban areas and along secondary roads that many persons think of them as almost tame. Yet they are one of the nation's top game birds, speedy, quicksilver fliers that appear and vanish almost before a gunner can recognize them, swing and fire. Not only are doves challenging targets, but they also are a gourmet's delight on the menu, providing a unique taste that sometimes takes a bit of getting used to but which is well worth cultivating. Try them. You'll like both the shooting and the eating.

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Occasional Slobs

THE LANDOWNER IS THE HUNTER'S best friend. That statement is so obviously true that it shouldn't need quoting or comment. Unfortunately, thousands of hunters don't always remember it. It's rare to go to a meeting where landowners are present that the subject of "hunter problems" doesn't come up. These problems have been mentioned often but they bear repeating, so we'll list some of them again: parking in farm roads in a way that blocks the owner's access; driving on cultivated fields; leaving fence gates open so stock can get out (or closing a gate that the farmer wants open); climbing fences by using the wires as steps, thus breaking them or causing them to sag and the posts to loosen; leaving sandwich wrappers, empty beverage cans, empty cigarette packages, etc., to mark the spot where you ate lunch; field-dressing doves and leaving the feathers and entrails in a disgusting pile near your shooting stand; leaving piles of indestructible plastic shotshell hulls in the same place; blasting No Trespassing signs with chilled slugs; shooting toward farmhouses, barns and stock; tearing ruts in pastures or on sidehills with 4WD's; hunting without permission . . .

The list could easily be extended, but you get the picture. It's not a pretty one, is it? Nevertheless, all of us—you and I and all our friends—have to look at that picture squarely. When we do, it's ourselves we'll be seeing in it. It's easy to say it's the other guy—the slob—who is doing all the damage, but if we're truthful we'll have to admit we're involved. Maybe we're not fulltime slobs—I sure hope we're not—but can you honestly say you've *never* done anything that would offend a landowner or some nonhunting passerby? I can't. I don't like admitting that, but a fact is a fact. And that means we're got to clean up our act.

The thing is, most of us are only occasional slobs. Perhaps 99.44 percent of the time we're as pure as the soap they advertise that way. We wear the white hats, we do the right thing. But once in awhile we all slip up. Maybe it's only a moment's thoughtlessness. Or maybe we're tired or angry or disgusted about something. Whatever the reason, for one splintered instant we just don't give a damn. We do something wrong. We immediately regret it, of course, but by then it's too late. The act is committed and we have to live with it. And other persons have to put up with it. But they don't like it, and we can't blame them for that.

Now, you might think that one slob-type act is no big deal, that hunter-landowner relations should not be affected by such a picayune matter. Admittedly, if one act were all we had to contend with, life would be simple. But when upwards of a million and a quarter hunters are in the field on a given day, if even a fraction of one percent forgets himself for a moment and commits some obnoxious act, the total is going to be awfully noticeable. And these acts are by the good guys. When we add in those of the genuine, all-the-time, 100 percent slobs, it's easy to see why more than a few landowners are disenchanting with hunters in general.

The matter is serious. It's not something we can kick under the haymow or pretend does not exist. It could well be that, in total, the occasional offenses committed by sportsmen are a bigger problem than those of the fulltime slobs simply because there are so many more of the good guys. All of which means that we've got to pay attention to what we're doing. Not just in a general overall sense, or on a mental balance sheet where we keep a running tally of credits and debits, but in a particular sense where we think about every act in the field and consider its possible effect on others.—*Bob Bell*





AT A VERY early age I concluded I would never make a grouse hunter. This horrible realization came to me after reading an abundance of bird shooting literature which pointed out that a good bird dog was absolutely indispensable to successful grouse hunting. Furthermore, it was the gentlemanly and proper thing to do. Not

rules for grouse behavior. For example, birds are supposed to flush wild on windy days, yet I have entered a cover on a still and overcast November day (a favorite set of conditions for grouse hunting) and been frustrated by flush after flush where I heard only the distant thunder of departing wings. Or, trying to play the role of generous host,

Jumpin' Grouse

By Paul J. Rundell

wanting to be thought less than civilized, and not wanting the world to become aware of my ignorance of things canine (as well as other personal shortcomings), I sought to conceal the fact that I aspired to be a grouse hunter.

Nevertheless, I secretly believed that by virtue of hard work, perseverance, and careful observation I might be able to score on grouse with some consistency. If circumstances were to deny me the joy of owning a good dog and the pleasure of observing good dog work, then at least I would enjoy what I really wanted anyway: grouse hunting. The best grouse hunters are those fellows who have been at it a long time. I don't really qualify, for after twenty years of it, what I don't know will fill a lot of coverts. But I've picked up a few things along the way, and at least I have a little better idea as to the extent of my ignorance.

A man who does not choose to hunt with a dog can acquit himself quite creditably in the grouse coverts. However, he must make certain adjustments in hunting style to compensate for the lack of a dog's nose. And he is well advised to cultivate certain other skills which are relatively less important to a man who has a good dog to point the way.

As a species, partridges are individuals. The unpredictable nature of the bird—or maybe a predictability beyond human capacity to comprehend—makes it difficult to establish a set of

I have taken a shooting friend to a most secret corner of a great cover on a perfect day, and failed to raise a bird. If grouse hunting has taught me anything, it is the wisdom of never being too certain.

Still, experience is the best teacher. If the passing of the years diminishes physical stamina, at least it equips a man, emotionally and mentally, to deal with the many uncertainties and few known facts of grouse hunting. The glib advertising slogan, "You're not getting older, you're getting better," can be applied with considerable truth to the grouse hunter. The best grouse hunters I know are grizzled veterans who have retained everything they ever learned about grouse hunting. Age may have slowed their reaction times and the miles may seem longer, but they use their heads and hang up as many birds as younger and quicker men.

Our grouse hunting is 99+ percent walking and less than one percent shooting. You disagree? Shooting is vastly more important, you claim, because it takes up only a small portion of the time and the bird is such an extremely difficult target. True enough, but consider this: how you equip yourself and how you conduct yourself during that other 99+ percent of the time goes a long way towards determining how many birds you'll flush and how well you'll be prepared for them.

Opening day of grouse season is a difficult time for the hunter. He longs to be in the coverts, yet realizes that con-

ditions are against him. The man who would take his shots as they come, without benefit of a dog's forewarning, is well advised to postpone his hunting until cold frosts have taken their toll of foliage. The October hunter is handicapped by thick leaves as well as an abundance of food. With the table spread so bountifully before him, the partridge can be, and will be, anywhere that his appetite can be satisfied. As colder weather advances, birds will have fewer choices of food and must become more limited in diet. Still, the list of plant material a grouse will consume is almost endless. Better to do some research of your own, investigating the contents of the birds you bring to bag and relating that to time of year, weather conditions, and available food. November is the month of the grouse hunter, at least for those who can wait.

Tense and Demanding

Grouse hunting is a tense and demanding sport when you walk them up. The grouse hunter is always on edge, nerves taut and waiting for the sound of the flush. It does little good to look for the birds on the ground (not that you'd shoot them there anyway) for the mottled brown camouflage of the feathered rockets renders them virtually invisible. Still, this is hunting with the ears as well as the eyes, for the rumble of the flush is the grouse jumper's forewarning.

The skilled hunter reacts instantly, locating the sound of the bird and beginning his swing in one uninterrupted, fluid process. A man never shoots till he sees feathers, but he is already on course and tracking, ready to make the small corrections and fire when a clear target presents itself. Sounds easy? Well, there are a lot of things that go to make up that smooth gun mounting, swing and shot that you just don't see . . . like balance and gun carry and foot placement and a host of small details that come into play subconsciously when a man has become an artist at jumping grouse.

Artist is not too strong a word to describe a man like this, for his unique combination of skills is more easily described than analyzed. A man

good at walking up grouse does it without apparent effort. He moves easily in the thickest cover, always seeming to pick a path that will permit him easy passage yet afford a shot if a bird goes out. It is uncanny in execution, for it is so natural, yet it is so difficult for the unpracticed.

Grouse are legendary for flushing while the hunter is picking his way over a tumbled stone fence or crossing a stream on some delicately balanced log. One is never flat footed, weight well distributed, ready for the swing and shot. The trick lies in readying yourself instantly for the opportunity. This fast recovery is mostly an acquired skill, something that is learned from long hours in the woodlands. We all learn to walk at an early age, but most of us remain unprepared for what grouse hunting has to offer in the way of rough terrain, thick brush, swamps, and the ever present briars. Only experience and conditioning give a man the balance and sure-footedness he needs for fast action in thick cover. There is no easy way to learn.

Of course, there are shots no human being can make. The bird that boils out behind you after you've unloaded your gun to cross a barbed wire fence, or the very patient grouse which has skulked in the branches over your head while you smoked your pipe and rested at the foot of the tree. After you stand up, slightly stiff and totally unprepared, he dive-bombs out amid a shower of small branches, leaving you with your heart in your throat and a determination to spend the rest of the day watching the treetops.

A gun should be carried in a manner which will permit instant action. How a man carries his gun in a grouse covert can be the badge of a veteran or the mark of a novice. Anyone who hunts grouse with his gun over his shoulder in military fashion, in one hand, or cradled in the crook of his arm, will lose valuable fractions of seconds which no man, expert or otherwise, can afford to lose. The gun should be balanced easily in both hands from the moment you reasonably expect to flush a bird. Depending on the type of gun you have, one hand should grasp the fore-end or

the barrels immediately ahead of it, the other should be on the grip, and you should be ready to release the safety. The muzzles should point ahead of you. It's easier to slide the gun through brush and it's less apt to become tangled if a bird flushes. The stock may be pressed under the arm, or dropped to the waist if the muzzles are elevated. In any case, when walking up game a gun should never be carried across the body with muzzles pointing to the side. Such a carry is slow to get into action, and may endanger a hunting partner working the covert to one side of you.

This is a good place to say a few words about grouse guns. Most of us associate certain guns with certain game. Mention of the autumn uplands evokes images of sleek and graceful double guns, open bored and lightning fast. There is much to say for the double, for a decent one is a superb grouse gun. They are shorter overall than

A MAN WHO DOES not choose to hunt with a dog can acquit himself creditably in grouse coverts. However, he must make adjustments in hunting style to compensate for the lack of a dog's nose.



repeaters because they have no receiver; they break easily for unloading when crossing those old barbed wire fences and tumbled stone walls which seem to abound in grouse country, and they offer a choice of chokes. I happen to prefer them because I like the way they look, but taste is a personal thing. I also like the way a double, particularly a side-by-side, carries over the long haul. Grouse hunting is mostly walking, as I've pointed out, and a well balanced double carries easily and feels good in my hand or over my shoulder when I'm moving between coverts. If a gun is properly balanced with most of the weight between the hands, it will come up quickly and smoothly even though it may not be extremely light.

Fast on Draw

Light guns are praised by some and criticized by others. They are easy to carry and very fast on the draw, but some shooters claim they do not follow through well because there is not enough weight in the barrels to sustain a swing. There may be a tendency to overreact with the light gun, or "throw it away," particularly if one is used to a heavier one.

Shooting styles affect gun selection. I regard a light gun as important to the "point and pop" style of jump shooter, for there is seldom time for sustained swing and lead on grouse. The light gun shaves split seconds getting on target. A grouse gun ought to be light enough to carry at ready in one hand while parting thick brush with the other. If a man can't do this with his present smoothbore, he's handicapping himself.

Short barrels are an advantage because they handle better in thick cover. There's no need for barrels longer than 26 inches on a double gun, and some of my better shooting has been done with a 5½-lb 20-gauge with 25-inch barrels. Repeaters benefit from a shortened tube also, and a cylinder bored barrel 24 inches long is a fast and deadly combination under most circumstances.

There is fashion in firearms just as there is in clothing, and the 20-gauge,



THE UNPREDICTABLE nature of the bird—or maybe a predictability beyond human capacity to comprehend—makes it difficult to establish a set of rules for grouse behavior. Often a flush is only the distant thunder of an unseen bird.

especially in guns with 3-inch chambers, is the pacesetter in today's gun world. Trends aside, the 20 is a slim and delightful gun, much favored in the uplands. However, I must confess a prejudice in favor of the 16, and a light 12, properly loaded, is the deadliest of grouse guns. Although an ounce of shot, properly pointed, is sufficient to do excellent work on ruffs, a larger gauge gives you the advantage of throwing more shot, with consequent denser patterns. My choice is 1¼ ounces of No. 8 shot, preferably in a shell approximating the 3¼-1¼ loading, or a low velocity handload. "Little powder, much lead, shoots far, kills dead," the old saying goes, and there is no need to be kicked around by high-brass loads with their bigger powder charges. Enough said.

It's an oversimplification to say that grouse prefer some tracts of real estate to others. Obviously, there are grouse

coverts and then there is just plain cover. Any grouse hunter worth his powder recognizes this basic fact and seeks birds where experience and intuition tell him they will be found. A good deal of research has gone into determining the food and cover requirements of ruffed grouse, but it is not the purpose of this article to report those findings. The cover needs and preferences of grouse vary with the season and weather, as do foods consumed. If the weather has been dry, grouse will seek out the moist edges of swamps. A wet fall will move them out of the low-lying woodcock coverts often preferred by early season birds.

Begin In Spring

The observations of the dyed-in-the-wool grouse hunter begin in the spring. He hopes fervently that it will be dry enough to permit good brood survival, and that late frosts do not kill the apple blossoms in the old orchards which fringe the woodlands. The man who would jump birds successfully in the autumn begins his prospecting in the spring. He notes where he has heard the drumming of cocks and records carefully, in mind if not on paper, what foods are in abundance that year.

Locating a covert is half the battle. How you hunt it is the other half. The man who hunts without a dog should know his coverts well. In addition, he needs to be a better student of strategy.

Knowledge of coverts and grouse habits must be utilized to the fullest. For example, once you have identified a feeding area, always approach it from the direction which will permit you the best shot. Try to separate the bird from his escape route and flush him in another direction. If terrain gives you the option, approach a hotspot from above, for you may get a better shot.

I have killed a fair number of birds in late afternoon, at or just before sunset. They feed heavily at this time, but the low sun presents special problems. Hunt with the sun at your back, and beware the early roosting bird which crash dives out of the top of a thick pine. Such birds are real nerve-wreckers, often permitting you to get very close before flushing. He presents

ne of the toughest targets in wing-shooting, for it seems virtually impossible to depress the muzzles fast enough to get in front of him.

Grouse are creatures of the edges, often feeding in the fringe areas which border thicker or more mature woodlands and then retreating to the protection of the heavy cover when flushed. A hunter can take advantage of this behavior by a "divide and conquer" strategy which cuts the birds off from their normal escape routes. The idea is to force them to scurry farther into the edge growth or, if they flush, swing in front of you in an attempt to get to the heavy cover, presenting you with a crossing shot.

Let's assume the birds are feeding in abandoned orchard and pastureland which is bordered by a thick stand of conifers. An initial sweep would take you through at the junction of these two cover types. Hopefully, birds not flushed at the outset will run farther into the feeding cover and sit tight while the hunter passes. Your next sweep should roughly parallel your first, but take you back through the feeding cover in the opposite direction. Birds feeding or skulking in this edge growth will often flush on the second or third sweep, and edge or feeding cover usually affords better shots than escape cover, which is usually very dense.

I try never to walk a straight line in grouse cover. It is too easy for a bird to cope with this approach by simply stumbling off to one side, usually in the direction of dense cover. The path you follow will depend on cover and topography, of course, but a twisting indirect route covers more ground and will probably flush more ruffs.

It took me a long time to discover an appropriate speed and rhythm for walking up grouse. When I first began hunting I thought stealth was important for everything, because I found that it worked on grouse too, when conditions were ideal. Since I was usually armed with a 22 rifle and hunting squirrels or rabbits, I regarded any grouse I might pop on the ground as a special sort of trophy. I couldn't cover much ground going so slowly, however, so when I took up grouse hunting in earnest I

thought the best thing I could do was cover as much territory as possible. As a result, I got the feeling I was walking by birds. The trick lies in varying your pace to suit cover and conditions.

In familiar coverts I move fairly briskly, but I hunt very carefully around known feeding areas and spots of thick cover which could conceal birds—overgrown fences, blowdowns, piles of slashings, and old apple trees which may carry fruit or buds. Abruptly slowing your pace as you approach and circle these spots can flush birds which would otherwise sit tight or skulk away.

Occasionally I stop near a likely looking bit of cover, fully expecting to be greeted by the thunder of wings. During such pauses I make it a practice to listen intently for the rustle of grouse feet in the leaves, a telltale sign that a bird is walking prior to takeoff, or is trying to hotfoot it to some hiding cover. Always plan your hunt so that pauses and abrupt slowing of pace occur near known grouse hotspots. I have flushed many grouse while deer hunting, but since the irregular cadence of my approach did not necessarily stop me near favored grouse spots, the birds I put up were often a considerable distance away.

State of Mind

State of mind is immensely important in grouse shooting. Popular belief holds that you need to be lightning fast to kill grouse, and all the commotion which attends his departure contributes to the illusion of great speed. The bird does accelerate very fast, but I believe his greater success lies in psyching out the hunter. Many of us are awed by the speed of the flush, we hurry our shot, and we miss. Less frequently, we are granted a reprieve, as I was one sun-drenched October afternoon many years ago. An old apple tree, hung heavy with frost-touched fruit, stood in the middle of a clearing. The setting fairly screamed "grouse," and I approached tense and expectant. Nothing.

Just as I was about to turn away, a magnificent cockbird boiled up at my feet and bored straightaway toward the edge of the woods. A clear and easy

sucker shot. I emptied the first barrel in haste, then watched for what seemed an eternity while the bird flew on unscathed. Flustered by the initial explosive rise of the grouse, I regained my calm sufficiently to center him with the pattern of the left barrel. Seldom are we granted a second shot as simple as the first. Had there been a pine tree or thicket anywhere nearby, I'm sure that bird would have found it.

Woodcock and grouse are often found in the same early season coverts. At such times a hunter can expect to flush either bird, and a mixed bag of these two species is an upland hunter's delight. The delicate, twittering flush of the woodcock is slower than the booming departure of a grouse, and reflexes which are adjusted to one can betray you when the other goes up unexpectedly. I shoot too fast on woodcock and never seem to get ahead of old ruff. When birds are in abundance, such early season shooting can start me talking to myself, and the rest of the season is spent trying to restore some semblance of respectability to my shooting average.

All is not sweetness and light for the

jump shooter. The man who lacks good dog will lose a bird once in while—the cripple or the occasional bird which is literally dead in the air but which still manages to sail for considerable distance. Every effort should be made to find wounded birds and the careful and persevering hunter owes it to himself and his quarry to leave no wounded grouse afield. Still, that will sometimes happen in any form of wingshooting, and mars an otherwise perfect day. Partial antidotes for cripples include passing up poor chances and a willingness to shoot again at wounded birds, even though they may be on the ground. Again, ears can become important. When a bird that may be only wounded is down, I listen intently for the sound of fluttering wings or running feet.

Nothing Easy

Nothing about jumpin' grouse is easy. More than most upland shooting it requires experience, dedication, and, some say, a bit of fanaticism. I'd been hard pressed to think of any type of wingshooting that demands more walking per shell expended, or offers poorer shot-fired-to-bird-killed ratios. Many experienced gunners who are most successful at walking up grouse are also loners, men who renounce human as well as canine companionship in the uplands. Such experts become the raw material of legends, men whose mysterious comings and goings are watched intently by other shooting men in hopes of discovering a secret covert or overlooked hotspot which produces such consistent success for one man. The best are spoken of in reverent tones wherever serious hunters gather. Old John, or Fred, or Charley—he's a grouse hunter.

There's really nothing exciting or spectacular about jumping grouse. There's just your woods wisdom and experience and stamina and quickness and shooting ability pitted against the most explosive and unpredictable magnificent and dignified bird in the woodlands. Just you, the grouse and the splendid autumn countryside. Come to think of it, that's not too bad an obsession after all.

No matter how you look at it.



It works. For you.

And Then There Were Doves

By Howard Mortimer



“DID YOU BRING lots of shells?”

The question came from a fellow I didn't recognize, but I knew what he was talking about. We were all there for one purpose—doves. The hunt had been arranged by the farmer whose ground we were hunting on; and although few of us knew each other, we all had two things in common—we knew the landowner and we all loved to shoot doves.

“A couple of boxes,” I answered.

“You'll need them,” he said matter-of-factly. He wasn't commenting on my shooting ability. This was the first time we had met. He simply believed what he was saying. Anyone starting out to hunt doves had better have plenty of ammunition. Judging from my past experience with this little gray ghost, I wasn't about to argue. Apparently no one else was either. Every man there had at least two boxes of shells, some three.

We started our hunt on a well kept farm where one of the local fellows, a self-appointed guide, showed us what he felt would be some of the best places for posting. A big part of the farm was in corn. Some of it had been picked, but most of it was still standing. We

spread out along the edge of the corn, two or three rows in, and waited. Within a few minutes I heard the first shots, and before long we were all shooting.

The first bird to come my way was a loner. I waited, following him till I was sure he was within range; then swung into a good lead and pulled the trigger. The bird hesitated in mid-air, changed course slightly and kept flying. I followed again, took my lead, and squeezed off the second barrel. The bird kept flying.

“Blast it!” I said loudly. “Don't tell me we're going to start *this* all over again.”

Every year I've started out that way. At the beginning of the season I'd shoot ten or twelve shots for every bird I downed. On one occasion I even went three for three—three boxes of shells for three doves. Usually I improved as time went on, until by the end of the season I could drop a bird for every four or five shots. Last season I felt I had finally mastered the art. I passed up a lot of marginal shots and took only ones that I felt sure were within range. I had worked out the lead and swing, and by the end of the season, I was shooting well. But the shots I had just missed



THERE'S NO GREATER THRILL FOR most dove hunters than gathering up the first bird of the season. Hitting the first shot gets the new hunting year off to a good start.

should have been easy ones. What was I doing wrong now?

I started thinking back over everything I knew about dove shooting. Doves fly fast. They don't look fast when they're passing over, but they are. Therefore, you have to give them a pretty good lead. They're small and it's difficult to judge their range. Most hunters shoot before doves get close enough, or when they're flying too high. I had waited for this dove until I was sure he was within range. The only thing I could figure out was that mid-air hesitation. It was as though he had stopped flying momentarily, just enough to let my shot pass in front of him, much as an automobile driver does at a "yield" sign. Maybe that was the problem. Maybe I was leading too far and shooting in front of them. I had no idea why my second shot missed. One dove shouldn't have been such a big deal, but I've always hated to miss my first shot of the season.

I had to stop worrying about it. Five

more doves were coming in, and unless they changed course, they would fly directly over my head. I knelt in the corn, not wanting to take a chance on being seen. When they were almost overhead, I stood and fired at the lead dove. He didn't flinch. I took a lead on one near the back and fired again. Still nothing. Four shots and not even a feather. I was sure doing something wrong, but I still didn't know what. Before I could think about it, another flight came in. I jammed two more shells in the gun and fired them. The results were the same. Whatever I was doing just wasn't working.

At times like that I need to walk. I've never been very good at sitting still and thinking. I crossed the cornfield behind me and moved over to the next field. I could walk there without disturbing anyone else. As I walked, I went over and over the missed shots, picturing each one separately in an attempt to analyze what I was doing wrong. It had to be one of two things: either I was

topping my swing or I was just giving them too much lead. It was impossible to tell whether I was behind or ahead of them.

I had been walking the edge of the cornfield, almost oblivious to everything around me, when I was startled by a whistling, fluttering noise. I swung to my right, pulled up, and fired just as the lone dove cleared the tassels of the corn. There was a puff of feathers, and he folded and dropped to the ground. I felt better, but getting that one still didn't help me with my pass shooting. He had been going straight away when I fired, much as a pheasant would do, and that kind of shooting was a whole lot different from pass shooting, as all love shooters know.

Back at my stand in the edge of the cornfield, I waited with a new determination. On the next flight I chose the lead bird again. This time I cut my lead a little, but I consciously continued my swing even after the gun went off. It worked. The bird folded and dropped almost at my feet. I quickly followed through, trying for a double. The second shot was a clean miss.

At least I felt a little better. The first shot had scored cleanly. My respect for the speed of the dove had caused me to overcompensate, giving him a bigger lead than necessary. Now that I knew the problem, I could correct it.

On the next flight I shot more confidently. I hit the lead dove cleanly and also scored with one near the back of the flight. As long as I kept swinging I

could shoot well. Swing is the important element in good pass shooting. Like many successful dove hunters, I start my swing well behind the bird, continue it through and ahead of the bird, touching off the shot when I reach what I believe is the proper lead, and follow through after the gun has been fired. When I follow this pattern I have less tendency to stop my swing when I'm ready to shoot, and I get more birds. But even when I'm doing my best shooting at the end of the season, I don't hurt the dove population much. Nobody does.

Dove hunting is not so much hunting as it is shooting. The hunter takes up a position and waits for them to fly over, usually as they go to or from feeding areas. It is all pass shooting. For that I like a short barrel 12-gauge bored modified and improved cylinder. I load my shells with either 7½ or 8 shot, and as mentioned earlier, I take plenty of shells. Usually there are plenty of other hunters shooting, and since most of my time is spent looking up, shooting glasses are invaluable for reducing glare. They also protect the eyes from stray shot.

Another great thing about dove hunting is that the fun doesn't end when the hunt is over. Doves are a gastronomic delight. The breast meat is dark, and cooked on a skewer over charcoal, delicious. The only problem is that it takes a real shotgunner to get enough of them for a meal. But then, that's what dove hunting is all about.

Deer and Bear Records Book Available

Pennsylvania Big Game Records, 1965-1976, is the complete report on the Game Commission's six statewide deer and bear scoring programs. This 112-page paperbound book contains a complete integrated listing of all Pennsylvania-harvested deer and bear which have been measured during the programs (using the Boone and Crockett system) and which meet the minimums established by the Commission. In addition, personal accounts of most of the hunts which collected the top trophies are included, along with photos of more than 160 high-scoring deer and bear, annual harvest totals from 1915 through 1976, and other informative items. Price is \$1.00 delivered, from Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120.



PENNSYLVANIA HUNTERS are blessed with the use of some two million acres of State Forest land and almost 1¼ million acres of Game Commission-owned State Game Lands. In addition, millions of acres of private holdings also are open to hunting, with only slight restrictions, usually for safety reasons. In spite of all this, newcomers to certain areas can still be in a bit of a quandary trying to decide where their best opportunities might be, come deer season.

The Hammermill Paper Co. of Erie has been doing something about that for the past two hunting seasons. In 1976 they inaugurated what they chose to call "Red Hat Day." Traditionally, Hammermill land, all 155,000 acres of it, has been open to public hunting with the exception of certain areas where logging operations were being conducted or where road conditions did not permit heavy concentrations of vehicles. For the most part, the logging roads are off limits to private autos and Hammermill recognized that this was a

deterrent to hunters. It was time consuming to get back into the interior of some holdings on foot. And if they did score, getting deer out could become an even bigger problem.

But Hammermill wanted bigger deer harvests on their property. Getting hardwood reproduction on some tracts had long been a problem, for hardwood country is also deer country, and nothing appeals more to hungry deer than succulent black cherry or hard maple sprouts. Therefore, helping hunters fill their tags seemed a good move economically as well as from a public relations standpoint. Nevertheless, Hammermill is in the tree-growing business, not the deer hunting business, so providing taxi service to get hunters "back in" for the entire season was out of the question. But why not, asked company officials, offer something special for antlerless season? From this question developed what is now known as "Red Hat Day."

In essence, the Red Hat Day plan would be to select a few Hammermill

HAMMERMILL RED HAT DAY



By Jim Bashline

tracts that were large enough to accommodate a respectable number of hunters, ask hunters to sign up ahead of time for the hunt, then transport them into the areas via company equipment. A fine idea! Hammermill decided to go one step further. At periodic intervals, they would send trucks and four-wheel-drive vehicles on deer pick-up runs to bring the successful hunters and their game back to the parking area.

An experimental area in McKean County was the starting place for the 1976 season. It worked so well that a larger area in Potter County was added in 1977. The Meeker Hollow region east of Coudersport and north of Route 6 was selected, and over fifty hunters signed up in advance for the "catered hunt." That it was a success is evidenced by the fact that of forty-four hunters transported into the area, twenty-four scored on antlerless deer. The hunters were happy and so was Hammermill.

I had bagged a small buck on opening day, but Sylvia was still deerless when

IN 1976, Hammermill inaugurated "Red Hat Day." Traditionally, most of their land has been open to public hunting, but the new program was designed to get antlerless hunters back into the interior and later get them and their deer out.

the season on baldies came around. We had been lucky enough in October to obtain Potter County antlerless licenses so we decided to try the Red Hat thing. She would hunt and I'd go along to take pictures. A good story perhaps, and gee, how could she miss? An area loaded with deer, the best deer county in the state, and free transportation into the heart of the area. No trick at all to shooting a deer, right? Wrong!

Sylvia was anxious to try her new 250-3000 Savage and I was lugging cameras loaded with color and black-and-white film to record the opening day event. My major worry was that she might shoot a deer too early in the morning and the light might not be good enough for pictures. Hah! As Bobbie Burns once said, ". . . the best laid plans of mice and men. . . ." Our plans did go a bit astray.

We were ensconced on the side of a sharp ridge where there had been some recent cutting. There was deer sign everywhere and I was sure that within a minute or so of being dropped out of the four-wheel-drive, Sylvia would be leveling the crosshairs on a fat doe. Fact is, we did see a deer shortly after full daylight, but my "expertise" cost her a shot. It went like this:

Sylvia: "Hey, there's a deer coming toward us at about eleven o'clock."

Me: "Yeah, I see it."

Sylvia: "Shall I shoot now? It's about seventy-five yards, isn't it?"

Me: "Wait a minute, it's still angling toward us; I think you'll get a better shot."

Famous last words. The deer slipped into a tangle of cut-off treetops and we never saw it again. I mean, it vanished into thin air! Moral of the story . . . when the shot is offered and it's a reasonably good one, take it. He, or in this case she, who hesitates and listens to kibitzers gathers no venison. That was the last deer we saw all day with



SYLVIA BASHLINE drags her deer down to the road. Success ratio on the Hammermill holdings has been well over 50 percent—considerably better than the statewide average.

the exception of the tagged ones carried out by the Hammermill deer-gathering platoon.

Red Hat Day was held on the first day of the antlerless season only (after all, the Hammermill folks wanted to hunt too), so on the second day we went to another Hammermill tract on the Dingman Run Road for a second try. I had hunted this hillside during

my youth, so I knew the country reasonably well. Again, I was sure Sylvia would score here. She almost didn't.

It was colder than a tax collector's heart, and two feet of hard crusted snow made the going tough. I made a couple of small drives for my spouse with no luck. The deer simply wouldn't cooperate.

At 10 o'clock we decided to head back to the car for some hot tea, when out of nowhere six deer appeared angling slowly up the hill in front of us. This time Sylvia didn't ask my advice. *Bang. Bang.* And another Pennsylvania deer tag was about to be filled out.

The safety record of the Red Hat Days thus far has been perfect, and the success ratio has been well over 50 percent. This is considerably better than the statewide average. In part, this can be attributed to the intimate knowledge the Hammermill employees have of their areas. But the fact remains that cutting operations and the resultant treetops act like beacons for hungry deer. The Hammermill Company and the hunters who participated in the Red Hat Day of 1977 were equally well served.

Company officials are enthusiastic about the Red Hat operation. They tell me they intend to expand the plan to other areas this season. For more information about signing up, write to Northern Timberlands Division, Hammermill Paper Co., Erie, Pa. 16533. But a word of caution. Don't expect to find deer hunting easy even on a hunt such as the Hammermill affair. Whitetails are still whitetails, no matter whose land they're on. There's still a measure of luck connected with it. Right, Sylvia?

The Game Commission is permitted to accept donations of money or land from any person, association, corporation or firm. Contributions are tax deductible. Funds received go toward purchasing State Game Lands, which are used by hunters and non-hunters alike, and for other wildlife management uses. Persons or organizations who make such donations show their sincere interest in and support of conservation in Pennsylvania, and the Game Commission expresses its gratitude for their contributions.

Trapping Mink with Confidence

By Ken James

EVERY TRAPPER has his favorite trap, I suppose, but for mink I've got four favorites; three are specifically mink traps, the fourth is a "just in case" kind which will take mink and almost anything else that happens to show up.

My all-time favorite for mink is certain to surprise many: it's the #1½ long spring. Just looking at it will make you wonder why. Sure, it's bulky and awkward and far too big when compared with a little #1 jump trap which under the right conditions will hold any mink, but it's got a lot of things going for it.

First of all, its wide jaws are capable of a good solid hold—sometimes all the way up the shoulder to the mink's body. If you've misjudged depth in making your set, it will still provide a good hold on a mink and, should a muskrat wander into your set, these big jaws will prevent the wring-offs.

For an adult, setting these traps either with gloves on or bare-handed is no problem and, although no mink trap is really difficult to set, these #1½ long springs are probably the easiest for young trappers to use.

The jaws can be grasped from the top with one hand as your other hand compresses the spring, using your knee for support if needed; then "bend" the spring downward. You can relax your grip on the jaws; they will fall open and you can hold them open by placing the heel of your hand (near the thumb base) on the open jaws, wrapping your fingers around the bottom for a secure hold, while setting the pan and trigger with your other hand. These long springs have a tendency to set with one jaw (the one not held in place by the

trigger) tilted upward as much as ¾ inch.

To level the jaws, merely turn the spring toward the trigger side. Instead of being lined up straight with the jaw base, the spring should be swung toward the trigger 45 degrees or more. You'll notice that a long spring trap in this position is a bit more compact and will seem less awkward than when first held out like a frying pan. The greater base area also makes it easier to plant the mink set solidly. One thing you don't need is a wobbly trap.

Any leg-gripping trap should be set on a firm footing. Clay or gravel bottoms present no problem. If you encounter silt or mud that offers no support for your trap, use one or more flat rocks as a base. If you "import" them from somewhere else as I've done on many occasions, take a little extra time after your set is finished to stir up the bottom upstream from your set (or, if it's in a spring, do the same with its bottom). Wait until the water clears. If the sediment has not covered your "foreign" rocks and trap, repeat the process.

Never Convinced

Although I've never been convinced that mink are as suspicious of traps as we believe them to be, I still make it a practice to place the "handle," the spring section of these traps, out of the mainstream. Just to be safe, I suppose, I put it off to the side of the path the mink is expected to travel. With its spring cocked to one side as described, the long spring trap can be used to make a compact set almost anywhere.

The Conibear body-gripping traps



McKee

are so loss-proof that you might well wonder why they're not my first choice. Well, in a good many places they are, but there are many places where a leg-hold trap is dictated. Each year that I've used the body-grippers I've come up with some new uses for them. I'm still trying to perfect a number of good dry sets using the small Conibears for mink.

They are excellent for underwater sets at the entrances of muskrat tunnels, drainpipes or elsewhere below the surface, and can be effective in narrow spring runs and in those "miniature anyons" referred to in Part II. We'll detail their specific uses later in discussing set locations.

Because of the tendency of muskrats to wring off a foot, the Stop Loss-type trap was developed. A number of them were once marketed, all similar in design. Once an animal was captured in the trap, his first lunge for freedom pulled out a pin which released a second spring-loaded restraining device. A narrow "hoop" swept up along the jaws, keeping the animal laterally at arm's length. The feature is relatively foolproof and eliminates any wring-offs which might occur if an animal thrashes about in shallow water. These traps were designed especially for sets in shallow water—too shallow for a drowning set.

The Stop Loss might rate a higher place in another trapper's list of choices, and that's his prerogative. They are good traps. Since they're almost always submerged for an entire season and subject to rusting, it's a good idea to check them before use the following season. I've had some perform flawlessly for season after season; others developed a very "lazy" guard spring. If early rusting is watched for, removed, and a light coating of oil applied in the off-season, it's reasonable to expect many years of service from these excellent shallow water traps. Bear in mind that mink sets are not muskrat-proof, fortunately. You'll welcome their pelts—not wring-offs. Remember, these traps are almost a must for sets far from deep water. There will always be opportunities for making sets where neither a drowning set nor a

Conibear body-gripping trap can be used; the Stop Loss is the answer.

"Best *mink* trap ever made was a double coil spring *fox* trap," an old-timer retorted with no surprise in his voice when I had told him of catching a mink in one which had been set for coon. A number of sets and catches later, I was inclined to agree with him. Some sets, despite what you intended them to catch, can produce mink, muskrat or raccoon, so it's only natural that you should prepare the set to hold the largest of the three. The catch referred to above was the result of using a natural-looking blind set that had been placed in a small meadow stream by some trapper who preceded me many years before. A rather large flat rock had been imbedded firmly into the stream bottom. It stuck out of the water a good two feet, its flat side parallel with the stream bank. The distance between the rock and the bank was just about what I would have made it, had I made the set for a raccoon . . . so, I stuck a #2 double coil spring in place. Ironically, I believe that set and that trap caught the *smallest* mink I ever took! (Just as ironic, the *largest* mink I ever caught was taken in a #1.)

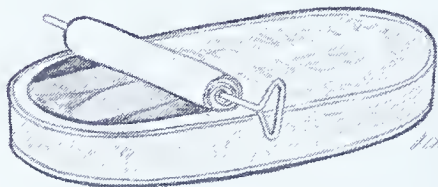
Homework

In recommending specific sets for mink, we're going to take for granted you've done your homework as "assigned" in Parts I and II, either by trying for a live sighting or tracking and scouting your proposed trapping grounds, or both. If so, you've got a good idea already just which sets to be described are for you.

One set which needs little preseason attention is the drainpipe or small culvert mink set. However, a few hints will increase your chance for success. If the culvert drains a spring which seldom if ever freezes, you can almost depend upon a constant water level, so a leg-hold trap will do the job. If water depth fluctuates, as it does with most runoff drains, it might be better to use the Conibear. Its wire triggers are very sensitive. The entire trap opening is much larger, yet the chance of the mink triggering the trap is much greater than if you depended on his landing a foot

atop the pan of a leg-hold trap set near the bottom of the pipe.

Regardless of the trap used, most drainage pipes are far too large for you to expect a mink will unerringly direct himself into your trap. You'll have to narrow down the opening. This should always be done on the *downstream* side of the pipe. Even so, you need only twigs placed lightly but firmly into posi-



THOUGH NOT A firm believer in the use of bait or scent, before adopting that theory I caught a mink in a spring using oil-packed sardines for bait. They will enter a spring and search every nook and cranny. Place your lure in one of these nooks.

tion. In the event of a sudden down-pour or melting runoff, you don't want to be guilty of flooding a road. If you're trapping rural areas, most township road crews would be glad to know what you're doing on their routes. If some major ditch clearance is planned, many will advise you.

In the drainpipe between two cultivated fields described in Part II, I had scarcely had my trap in place a week when one morning I was greeted by a half-inch ice cover. I was about to chop through, pull the trap and give up the set, but I noticed the ice was clear as a window pane. So, I thought, why not check it each morning through the "window"? Each day seemed to add a little more until I had about 2½ inches of window, but one morning I could make out the unmistakable form of a mink through the ice. I chopped out the set, retrieved both mink and trap and decided I had stretched my luck long enough. It would be there to trap another year.

I've never heard an explanation of how a "blind set" got its name. I can only guess it's because the set is made where an animal will "blindly" venture into it, as opposed to being baited or lured in. Whatever the reason for the name, it sure does catch furbearers. You can find natural blind sets along many streams and lake or pond shores in other places, with a little effort you can create them. A large boulder imbedded into the earth and extending from below the water's surface to some distance onto shore will be a natural obstacle in a mink's path along the stream. It can be depended upon to enter the water very close to the obstacle, so set your trap accordingly. A long wire should be attached to the trap chain and secured to a substantial "anchor" out in the stream. In places where stumps, large rocks or brushpiles have already narrowed down a furbearer's streamside or lake side runways, you can add similar material—a short log, additional rocks or brush—until you have constructed an impassable obstruction, thereby nudging your quarry into the water, into your trap. Since such sets take raccoons use a #2 double coil spring in good condition, with a heavy wire and stone to act as a drag.

Bridges offer an assortment of blind sets. Some will be more effective with a bit of work on your part; others can be taken advantage of by merely placing your trap at the appropriate spot.

Last Type First

Let's take the last type first. A very good under-the-bridge set can be made where a stream approaches the bridge either from an angle or on a curve. In doing so, it generally scours one side of the creek more deeply than the other and a sand bar results on the opposite side. You can depend on mink using the side of the creek with the sand bar. Where they cross is a guess, but cross they do in order to avoid swimming into the faster current on the deep side. A trap set in about 2½ inches of water close to the bridge foundation, just in front of the sand bar, will take mink coming and going. A large stone or two placed six to eight inches from the foun-

dation is an added guarantee that you'll funnel mink into your trap. Again, set heavy, this will also take coon.

Some trappers choose to set up a corridor between the bridge's foundation and a rock they've placed in position long in advance of the season. Mink thus become accustomed to swimming through. When the season opens you merely build up the bottom in this corridor with flat rocks until you have your trap within a few inches of the water's surface, set your trap and you're in business. This is an effective set but it has a few hitches you should be aware of.

Not Often Possible

First, it's not often possible to find that big flat rock to set up on edge as a corridor wall. Secondly, though you might find one nearby, getting it to the spot can make hernia a sure bet! It's an accomplishment, sometimes, just to keep your balance in a rushing current without the further burden of a heavy rock. Now, I've gone this entire route, including the next step: trying to get that blasted rock to set up without flopping back into the water. Yes, you can lean it against the bridge foundation, and that works as long as the water level doesn't rise too much. Should that prize rock topple over streamward, you'd better have along one of those shoulder length trapper's gloves! The last disadvantage to this guide rock is that it's a neon light to trap thieves. If they've got boots or waders on, "Bye, bye, trap!"

An alternative that works about as well is to build up the creek bottom so that your trap will sit in the desired depth of water—about 2½ inches—and trust to the mink's instinct. Both mink and muskrats will swim as close as they possibly can to a bridge foundation and I've taken both without any further addition to the set.

Another bridge set that works well is less hazardous; the trap is set just at the stream edge of the bridge's wingwall. Generally there is a little pool of water just around the corner of the foundation from times of higher water. A trap can be submerged in a few inches of water here, the drag tossed into a deeper area

of the creek, and it will take mink. If you've got a bit of silt on the creek bottom and you've dyed your traps properly (see "Trap Care," GAME NEWS, July 1977), it is sometimes possible to make such a set that is practically invisible. Of course, you will have to check it early—you can't camouflage a trapped mink. Again, a #2 is your safest bet here.

Spring runs offer some good opportunities for blind sets. If no natural narrowing-down of the stream occurs, it can be created with a few well-placed dead branches (such blind sets are discussed and illustrated in *Pennsylvania Trapping*, available from the Game Commission for \$1.00, delivered).

I went upstream from my usual haunts one winter and observed a spot where debris had all but clogged the mainstream of a small run which drained an old swamp. It looked like a good place for a set, except the current seemed too swift. Figuring I had nothing to lose, I made the set. Next morning—a mink! It didn't seem possible, with that swift current, that a mink would attempt to squeeze through, but squeezing through seems to be the name of their game.

Springs themselves are a good bet for all-winter (all-season, that is) trapping. These, too, are on the mink's list of required-visiting places. Although I'm not a firm believer in the use of bait or scent, before I adopted that theory I



LAKES AND FARM PONDS are great places to trap in early season. Most are havens for muskrats and mink will sometimes follow them out of the sheer desire to plunder a colony.



BE A COMPLETE mink trapper. Have a variety of sets planned. Build them, if necessary, in advance of the season. You'll be trapping mink long after others have hung up their traps for another year.

caught a mink in a spring using oil-packed sardines for bait. They will enter a spring and search out every nook and cranny. Just use one of those existing nooks, or make your own, and stuff in a bit of bait or lure. What can you lose? I scored, and so can you.

Early in the mink season, before heavy freezes become the order of the day, those miniature arroyos, little canyons which erode deeply into a meadow while draining a spring or maybe a swampy area farther uphill, are great places to catch mink. I had always used Stop Loss traps in these little ditches because there was never water of sufficient depth for a drowning set. Fresh out of those traps one day, I debated the use of a Conibear. It didn't seem possible that it could be concealed, but I made the set anyway. Using a stake to support the Conibear firmly (when the trap is set the coil tightens around the stake; if your stake is firmly imbedded in the ground your

trap will remain in place securely), I bent over some grasses to form a natural-looking arch—at least, I told myself it was. A light snow fell during the night and next morning I searched for that set with mixed emotions: I was indeed proud that I had engineered the basis for such a well-concealed set (now that the snow had fallen), but really, I would like to have known where the heck it was!

Realizing I had a good thing going, I decided to play it smart (*that* was a first!) and stay put, electing to keep searching with my eyes instead of tramping around and disturbing the beautiful white carpet over the countryside. In time I did spot the set, made a mental note of where to stand, where to look tomorrow, and went on my way. "Tomorrow" the Conibear held a fine male mink! "Held" is a good word, too. I don't know how he did it, but he was all the way through the Conibear. That is, the trap's jaws were closed on his body, behind his shoulders and in front of his hind-quarters! He must have really been traveling and got his head through, maybe alongside the trigger (although I don't see how that's possible) and "triggered" it with his midsection. Whatever, there he was, in a Conibear set where water once *was* but was no more.

Plan for After Freeze-Up

Lakes and farm ponds are a great place to trap in early season. Once they freeze up they become a problem. Most are havens for muskrats, and mink will follow them to plunder a colony. Blind sets along shorelines or in spring runs feeding the lake or pond, or dry sets along the shoreline will all put mink on the stretching boards. Since these are the first to freeze on your trapping grounds, this might be a good location to plan for some after-freeze-up sets. Look for hollow logs not far from shore. Search them out for mink sign. You might want to try bait or lure in advance of the season to see what you can coax in. You can make shoreline tunnels a mink won't be able to resist by placing two old logs of about any length side by side (just far enough

apart for your trap) and covering all but the ends with brush, twigs, leaves, bark—anything you can find handy. A bit of weathering and your made-to-order mink subway will look like it was always there. Set your trap well inside the opening, and use crumbled dry leaves or even feathers from hunting season's bird kills to cover your trap. It will be freeze-proof and snow-proof.

The same type shelter for an all-season trap can be used along stone fencerows. Or you can construct a modified weasel box as described in *Pennsylvania Trapping*, enlarging the hole and the box a bit to accommodate the larger mink. Also, with the land-owner's permission you might construct almost the same type of trap shelter using the raw materials at hand. It's important to narrow down your opening. One farmer gave me the OK to go ahead, "But don't trap any of my cats!" They would be searching for the same rodents as the mink.

Before freeze-up, I wouldn't miss any underwater tunnel anywhere. I've caught mink in ponds and slow-moving streams with traps placed in muskrat tunnels under water. This is just one more of those "tendencies" that mink seem to have. The more you learn of them, the more success you'll have on the trapline.

It's a temptation to rush to the nearest pond or stream, scout it out, figure out how many sets you'll make and where, only to find that you're frozen out of business quicker than you had imagined . . . and you haven't made plans or provisions for those "dry sets" which go on catching mink after freeze-up. Don't make that mistake. Be a *complete* mink trapper; have a variety of sets planned—*build* them if necessary—in advance of the season. You'll be trapping mink long after others have hung up the traps for another year and you'll be well paid for your efforts.

Hey, Mabel!

Female toads and frogs are usually voiceless except for cries of alarm, but males summon their mates to the breeding pools by voice. They call with the mouth closed by using the inflated vocal sac as a resounding compartment.

PENNSYLVANIA GAME COMMISSION

SUMMARY

1978 SEASONS AND BAG LIMITS

DOVES, RAILS, GALLINULES, SNIPE, WOODCOCK

Species	Open Seasons		Daily Bag Limits	Maximum Possession Limits
	First Day	Last Day		
Doves	Sept. 1	Nov. 9	12	24
Rails (Sora and Virginia)	Sept. 1	Nov. 9	25*	25*
Gallinules	Sept. 1	Nov. 9	15	30
Wilson's or Jacksnipe	Oct. 14	Dec. 16	8	16
Woodcock	Oct. 14	Dec. 16	5	10

†NO OPEN SEASON—King and Clapper Rails.

*Singly or in the aggregate of species.

SHOOTING HOURS

Doves—12 noon, prevailing time, to Sunset.
Rails, Gallinules, Snipe, Woodcock—One-half hour before Sunrise to Sunset (except on October 28 when the opening hour will be 9 a.m.).

MISCELLANEOUS REGULATIONS

FEDERAL MIGRATORY BIRD HUNTING STAMP ("DUCK" STAMP) NOT REQUIRED TO HUNT DOVES, RAILS, GALLINULES, SNIPE, WOODCOCK. BOW AND ARROW, SHOTGUN PLUGGED TO NO MORE THAN 3-SHELL CAPACITY ARE LEGAL, RIFLES AND PISTOLS ARE PROHIBITED. NO HUNTING ON SUNDAY.

WHAT IS GAME MANAGEMENT?

By William K. Shope

PGC Game Biologist

GAME MANAGEMENT consists of manipulating a game population's size or sex ratio to change the number of animals that can be harvested annually. This can be done by manipulating either hunter harvests or habitat. This article will discuss the role of harvests in controlling the size of game populations.

The number of animals that can be harvested on a sustained basis from any game population depends on the number of new animals added to that population between hunting seasons. The number of new animals added depends on both the number born and the number dying between seasons. For example, if we had 500,000 deer left after hunting season and 300,000 fawns were born in June, but 100,000 deer died between hunting seasons, we would end up with a fall population of 700,000. From this population of 700,000 deer we could harvest 200,000 deer. Assuming we want to keep the population at that size, the allowable harvest is the difference between the post-hunt population of 500,000 and the following year's prehunt population of 700,000.

If we were able to harvest 200,000 deer from a fall population of 700,000 deer on a regular basis, we would say that the *sustained yield* value for a population of 700,000 deer is 200,000 deer. Each population of animals has many potential sustained yield levels because of differences in reproduction and survival associated with different population levels. As long as environmental conditions remain fairly stable, the yield associated with a given population level remains fairly constant.

While every game population has many sustained yield values associated with different populations levels, each game population has only one *maximum sustained yield* value

associated with the set of environmental conditions in which that population lives. The maximum sustained yield value occurs at the population level which can stand the greatest removal of animals on a regular basis without changing the size of succeeding fall populations. The environmental conditions in terms of food and cover are adequate to provide all the basic needs of the animals at a maximum sustained yield population level.

To illustrate the idea of a maximum sustained yield versus a sustained yield, we prepared a set of population values showing the prehunt and post-hunt population levels, harvest levels, and the adult male and female age structures for a deer population in an area which can support 5,000 animals over winter (Table 1). The adult male harvest rate, reproductive rate, and nonhunting mortality rate from causes other than winter starvation used in developing the population levels and harvest estimates were approximately the same as the current statewide rates for deer in Pennsylvania. The adult male harvest rate used in the model was 70 percent (current statewide rates range between 65 and 73 percent). Reproductive rates used in the model were 0.5 male fawns and 0.5 female fawns per female of age one year or older in June (current statewide rates range between .51 and .53 for either sex of fawns), and the losses between seasons were placed at 20 percent of the post-hunt population (current rates range between 18 and 26 percent).

Winter losses in the model population in Table 1 occurred only when the post-hunt population exceeded 5,000 animals. When winter losses occurred in the model populations, they were deducted evenly from both the male and female fawn segments of the population. Although some older adult fe-



ales die under very harsh winter conditions, the majority of starvation losses in Pennsylvania are fawns.

The examples in Table 1 show that the maximum sustained yield of deer is obtained when the population is kept in line with the winter carrying capacity of 5,000 animals. The largest buck harvests and antlerless harvests occur at the maximum sustained yield (MSY) population level. As you can see from the various sustained yield (SY) values, the population can be stabilized at many different levels by controlling the size of antlerless harvests. It is even stable when there is no antlerless harvest.

Several other points of interest can be shown from the modeled populations in Table 1. Because the adult male age structure is primarily determined by hunting mortality and nonstarvation losses between seasons, both of which were kept the same throughout the model, the percentage of yearlings in the adult male segment of the various stable populations did not change.

The female age structure also remains constant, up to and including the maximum sustained yield level. Above that level, however, the percentage of 1½-year-old females at all rehunt population levels changes, reflecting changes in fawn survival from the previous winter.

From reproductive rates obtained by examining road-killed female deer, biologists can estimate the percentage of yearling does which would be in the full population with no winter fawn losses. By comparing these estimates

ANN STIMMLER, 12, of Philadelphia, left, and 135-lb. doe taken at long range while hunting with her father in Juniata County. Above, Mike Chesko and a fine trophy buck taken in Lawrence County on opening morning last season.

with the actual percentage of yearling females showing up in the fall harvests, we can estimate winter losses. Deer populations which consistently show low fawn survival are a result of trying to carry too many deer through the critical winter period. Using reproductive rates and the percentage of 1½-year-old females in the fall adult female harvests, we can measure the degree of overpopulation in herds with low fawn survival.

Since the discussion above was based on a population model, we thought you might be interested in seeing actual reproductive and age data from the Pennsylvania deer herd since the start of continuous antlerless deer seasons in 1957. This information is shown in Table 2.

A comparison of the current percent yearling females from Table 2 with the MSY population's percent of yearling females shown in Table 1 indicates that we are maintaining the deer herd near the maximum sustained yield level.

The change since 1957 in the percentage of yearling males is not a result of improved survival as is the case in females. As pointed out earlier, the percentage of yearling males is related to the mortality rate in adult males. The increased percentage of yearling males is a result of a higher

rate of harvest of adult males.

Although we used deer as an example of sustained yield and maximum sustained yield harvesting, we could have used any animal because the principle is the same for all. Only the reproductive rates and survival rates may differ. Every species of animal that is hunted either commercially or for sport has many

potential sustained yield population levels, but only one maximum sustained yield level. The maximum recreational value from a hunted population is obtained when that population is held near the maximum sustained yield level. Establishing regulations to properly control the level of harvest is part of the professional wildlife manager's job.

Table 1. A simulated deer population showing the relationship between the maximum sustained yield and several sustained yield harvests. The winter carrying capacity of this population was set at 5,000 deer. Adult male harvest rates, reproductive rates, and nonwinter between season mortality rates used in the model were the same as the statewide deer herd values. All deer in post-hunt populations which exceeded 5,000 animals were lost to winter starvation. Winter losses were divided evenly between male and female fawns in the post hunt population.

TYPE YIELD	PREHUNT DEER POPULATION					POST-HUNT POPULATION						% WINTER POPULATION LOSSES
	Adults		Fawns		Total	HARVESTS*		(Before winter losses occur)	% YEARLINGS			
	Male	Female	Male	Female		Antlered Males	Antlerless		Adult Males	Adult Females		
SY	865	1917	958	958	4698	605	593 (15.4)	3500	76	34.3	0	
SY	988	2190	1094	1094	5367	691	676 (15.4)	4000	76	34.3	0	
SY	1112	2465	1232	1232	6041	778	763 (15.4)	4500	76	34.3	0	
MSY	1235	2737	1368	1368	6709	864	845 (15.4)	5000	76	34.3	0	
SY	1158	2842	1421	1421	6842	810	700 (12.3)	5332	76	31.0	6.7	
SY	1093	2906	1453	1453	6905	765	557 (9.6)	5583	76	28.6	10.4	
SY	1016	2983	1491	1491	6981	711	392 (6.6)	5878	76	25.9	14.9	
SY	932	3067	1533	1533	7065	652	211 (3.4)	6199	76	23.1	19.3	
SY	833	3166	1583	1583	7165	588	0 (0)	6583	76	20.0	24.0	

*Numbers in parentheses are the antlerless harvest rates required to stabilize the pre- and post-hunt populations at the levels shown.

Table 2. Age structure changes and reproductive rates for the Pennsylvania deer herd since the start of continuous antlerless deer seasons in 1957.

Year	Percent 1½-year-old deer in fall adult populations		Female reproductive rates (Percent producing)		Average # embryos	
	Males	Females	Age 1	Age 2 +	Age 1	Age 2 +
1957	61.0	26.0	—	—	—	—
1958	60.0	28.0	15.0	96.0	1.00	1.60
1959	59.0	30.0	16.0	89.0	1.00	1.60
1960	62.9	34.0	23.3	89.0	1.12	1.64
1961	68.7	27.0	19.5	89.0	1.18	1.65
1962	67.5	30.0	34.2	92.0	1.32	1.75
1963	62.0	32.0	25.0	92.0	1.18	1.72
1964	65.5	32.0	19.4	95.0	1.12	1.66
1965	65.9	35.7	28.3	92.0	1.23	1.70
1966	70.0	35.7	31.7	95.0	1.13	1.76
1967	64.0	34.7	31.3	95.0	1.21	1.74
1968	71.2	34.8	32.1	92.0	1.20	1.71
1969	72.9	29.3	32.1	92.0	1.20	1.76
1970	73.7	30.5	26.3	92.0	1.19	1.72
1971	79.3	34.3	35.1	94.0	1.23	1.71
1972	80.4	36.5	37.0	89.0	1.23	1.76
1973	74.1	32.1	38.0	89.0	1.23	1.70
1974	75.5	35.8	26.4	90.0	1.26	1.72
1975	72.5	34.4	31.7	90.0	1.17	1.67
1976	75.4	35.5	37.0	86.0	1.18	1.72
1977	74.6	36.2	30.0	82.0	1.20	1.76



An Act of Kindness

By Lowell R. Frantz

Though it is hard for the non-hunter to understand, it is nevertheless true that a man may kill animals and love them at the same time. Perhaps it can't be explained logically—but then, neither can love itself. We hear countless stories of kind acts performed for injured or helpless animals. The cynic, perhaps, would say that the hunter nurtures an animal in distress only so that he can hunt it later. When the animal involved is a game species, that argument might have merit. But too many of these stories involve nongame species for us not to believe that many, many hunters truly love the animals around them, even if at one short period during the year they try to kill some of them. The following account describes one such act of kindness towards an animal in distress.

IT WAS FRIDAY, the first day of the 1977 antlerless deer season. Curtis Frantz, Lamar Hummel and I—all from Pine Grove, R.D.—were waiting along Sweet Arrow Road in Schuylkill County after our last drive of the afternoon. A car stopped, and the man who got out—apparently a non-hunter—asked whether we wanted any deer. He said two had broken through the ice on Sweet Arrow Lake, were unable to get out, and were drowning.

When our buddies arrived with the truck to take us home, I suggested we drive down to the lake and see what was going on. When we arrived there, about a dozen cars were parked along

the guard rails and more onlookers were arriving all the time.

A 6-point buck had preceded the other two deer across the ice. His weight had apparently cracked and weakened the ice just enough that the doe and button buck broke through. The ice held until they were about 25–30 yards from shore. They fought their way through the weakened ice for another 75 to 80 yards until they were in the middle of the lake. There the ice again thickened and they were unable to travel farther.

They must have been in the icy water for about 45 minutes when we arrived on the scene. We were all debating

what we could do to help. My first thought was to use a boat with a flat bottom so we could push our way out across the ice, lasso the deer and drag them up on the thicker ice beyond. But we decided this was too dangerous, as the boat might break through at an erratic angle.

At this point Carol Zimmerman arrived and said she had a boat. We said we also needed lots of rope, which she supplied as well. When the boat arrived, we slid it down the bank onto the ice. Donald Ritschel, of Andreas, accompanied me in the ensuing rescue.

Break a Channel

He suggested we break a channel out to the point where the deer broke through, go out and lasso them, and drag them back to shore. We attached a long rope to the back of the boat, leaving the other end with the persons on the shore. We were concerned that the deer might panic and try to get into the boat, sinking it and us in the process.

After several tries, I was able to lasso the smaller deer, a button buck, which was too exhausted to struggle much more. I reached over the bow of the boat, grabbed him by the ears and held his head above the water. Onlookers towed us in to shore. We dragged the exhausted buck from the water, tied his legs and laid him on the roadside. We then returned to rescue the doe. Fast-approaching darkness added a feeling of urgency.

She was much stronger and heavier than the young buck and put up considerably more of a fight. As soon as I lassoed her, she turned around and swam alongside the boat. We were afraid she was going to crawl into the boat, which would definitely upset us. Don pushed her back with an oar; I grabbed her by the ear and tried to handle her in the same way as the young buck. In her panic, she flailed away with her hooves, dealing some punishing blows to my forearms. I hung on, grabbed her other ear and away we went. She had her forefeet in the bow of the boat several times before we reached shore.

We then took both deer to a barn owned by David Zimmerman, husband of the woman who had supplied all the equipment for the rescue. Deputy Game Protector Roy Hiester, who arrived just as the rescue began, said it would be all right to keep the deer in the barn overnight. Dave and several others put the deer in a clean box stall and rubbed them down with bath towels. We decided to untie their legs so they wouldn't stiffen and to open the door so they could leave whenever they wanted to. I said I hoped that we could keep them in the next day which was the last day of doe season, so that they would not be shot while still weakened from such an ordeal.

After everyone left that evening, Dave and Carol decided to shut the door and keep them in.

The next morning Dave and Carol peeked in and saw the doe standing quietly. The young buck lay motionless in the same position he'd been in the night before. They feared he might be dead. About noon Carol again looked in and was delighted to see that both deer were now standing quietly in the stall.

On Sunday morning, December 18, they found it necessary to go into the barn and actually chase the deer outside. The doe left swiftly and headed for the mountain. The little buck, however, headed straight out the barn door, across the road, and again ran onto the lake. He got about halfway across and broke through the ice a second time!

Dave and Carol found an open channel cleared of ice and went to his rescue. They lassoed him and, while Carol held onto the rope, Dave rowed for shore with the deer swimming behind.

My wife and I, along with Mervin and Mae Hummel, stopped by a few minutes later and were amazed to see a soaked deer again receiving a rubdown from Dave. Carol called us later in the day to say they had taken the small buck farther away from the lake and released him. This time he headed for the mountain in the direction the doe had taken.



MOST OF THE PRODUCTS displayed by DGPs Bob Lumadue, left, and Clay VanBuskirk are made from endangered species, and are therefore probably unlawful to possess, sell, etc. What does the "etc." include? Why are they only "probably" unlawful? What does it all mean to the sportsman, the outdoorsman, the traveler, the taxpayer?

The Endangered Species Act

By Toni L. Williams
GAME NEWS Staff Writer

LIKE MOST legislation, the Endangered Species Act gets complicated. But let's start out with a basic framework.

First, the federal laws.

Actually, there are two sets of legislation above the state level, but one of them probably won't affect you much as an individual. That's an international convention on Trade in Endangered Flora and Fauna (referred to as "the Convention"). It's an agreement between several countries, including ours, that regulates international trade in the species listed on its two appendices, Appendix I representing those most seriously threatened. There

is also a 1972 Marine Mammal Protection Act, covering whales, dolphins, seals, sea otters, polar bears, etc. With limited exceptions, including the highly regulated taking of whales and seals, the MMPA makes it illegal to take or import marine mammals or products made from them *except* those taken before 1972 (*unless* they're an endangered species).

You can see that some endangered species get double or triple protection. The southern sea otter, for example, is protected under the Convention, the ESA, and the MMPA. Any endangered migratory or songbird, such as the peregrine falcon or Kirtland's warbler,

is protected under state law (where they're defined as "protected birds"), federal law relating to hawks and owls, migratory birds or songbirds, and the ESA—and, in this state, under the endangered species section of Pennsylvania's Game Law.

Even if you're not an international trader in animal products (such as a Philadelphia curio-shop owner who buys overseas such items as hairclips made from turtle shells or elephant-ivory jewelry), this Convention might affect you indirectly. About two years ago, responding to a public request, the U.S. Fish & Wildlife Service added the Convention's Appendix I to our Endangered Species List. That means interstate commerce, as well as international commerce, is now affected; our curio-shop owner can't get his hairclips or jewelry from his New York supplier now, either, even if they've somehow made it into the country. And you can't buy such items. Nor can you legally accept one as a souvenir gift from Aunt Gertrude, who innocently tucked it into her cosmetic bag on the way back from Hong Kong.

In fact, the same regulations now apply to those species on the Convention's Appendix I that apply to the other species on our own federal endangered species list.

What are those?

In loose layman's language, in regard to the listed species, the Federal Endangered Species Act prohibits:

- importing or exporting, or trying to do either
- taking (that is, harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, collecting, or trying to do any of those things)
- possessing (even if you're only delivering them to someone else)
- violating any other regulations the Secretary of the Interior or the Secretary of Commerce might put in effect*

"What about zoos?" you might ask. "I've seen a lot of animals in the zoo

with those special 'Endangered Species' signs." There's an exemption in the Act for species "held in captivity or in a controlled environment" if it's not contrary to the general purposes of the Endangered Species Act, and if the animals were already there when the act was passed. If a zoo should want an example of an endangered species now, it would have to obtain a special permit.

Captive Breeding

The Secretary—subject always to public scrutiny—may issue a permit to allow any act that's otherwise prohibited if he feels it's necessary for scientific purposes or to enhance the propagation or survival of the affected species. Several endangered species are being bred in zoos or other educational institutions, either for reintroduction into the wild (as in Cornell University's peregrine breeding program) or to serve as a reservoir of animals in case conditions should someday change for the better and the animals might again be able to survive in the wild.

Without a special exemption, for example, it would be illegal for the Migratory Bird Research Center at Laurel, Md., to gather eggs from whooping cranes to be hatched by the more common sandhill cranes. This is important to the whoopers for two reasons: first, the whoopers generally lay more eggs than they can or will hatch and raise, so by removing the surplus and having them fostered, more whooper chicks will be produced; second, by spreading the wealth of whoopers among several population centers, a disaster at one would still leave other whoopers to carry on.

Our state laws on endangered birds and mammals are similar to the federal regulations mentioned. They're outlined nearby, along with the penalties for violating them.

But other major sections of the Endangered Species Act—those relating to acquiring habitat, and management through other means than law enforcement—have no analogs in Pennsylvania's Game Law. (There are, however, similar sections in the recent

*The catch in this one is that if a state has entered into a cooperative agreement—as we did recently—those regulations apply in the state only if the state has also adopted them.

In the interest of making our laws known to the people they affect, I have summarized below the portions of our Game Law and related laws which concern endangered species. Please remember, this is not the final authority, it is just a guide to the law. If you have any questions, contact any Game Commission office or the Division of Law Enforcement in Harrisburg.

Section 101:

Definition: Species or subspecies of wild birds and mammals which appear on the federal Endangered Species List, or species which the Commission may designate as endangered.

Section 723.1:

(a) The Commission may add or remove species native to Pennsylvania to or from the Endangered Species List.

(b) It is unlawful for anyone to do the following things to endangered species, or any part of the animal (feathers, hide, etc., or eggs of birds): bring into or remove from the state, transport, capture, kill, or attempt to capture or kill. Officers (game protectors and some others) may seize any such items, which are contraband and may be disposed of as the director sees fit. Penalties are \$200 plus costs for a first offense; \$400 plus costs and/or six months in jail for second offense.

(c) No one may buy, sell, barter, exchange or give away—or offer to) any endangered or rare species or parts of them. Contraband may be seized and dis-

posed of. First offense carries a penalty of \$400 plus costs; second offense, \$2,000 to \$4,000 plus costs, and/or up to one year in jail.

(d) Possession of endangered or rare species or parts (including eggs) which were already in a person's possession on March 28, 1974, is allowed. The burden of proof that such items were legally obtained before that date is on the owner.

Not actually a part of the Game Law, but another law enforced by Pennsylvania Game Commission officers, is Act No. 66, which prohibits the sale (or offer for sale) of the following wild animals or products made from them: leopard, snow leopard, clouded leopard, tiger, cheetah, mountain lion, jaguar, ocelot, margay, vicuna, red wolf, polar bear, alligator, caiman or crocodile. The penalty for violation is a fine of up to \$1,000 and/or imprisonment up to one year, and forfeiture of the animal(s) or products.

As in the other laws, there is a "grandfather clause" and a provision for special permits from the Commission for certain educational or scientific purposes, unless importation is prohibited by other federal laws.

Finally, there is another related law, Act No. 110, which is quite similar to Game Law Section 723.1 (c) described above. The chief difference is that this act spells out in more detail the prohibited articles: any article made in whole or in part from the skin, hide, or other parts of endangered or rare species (unless exempted under the Game Law).

agreement—not a part of the Game Law—which we'll cover in later articles.)

How about those highly publicized cases of big dam construction or whatever being stopped because of a Furbish lousewort or some kind of snail darter? Those come under another section of the Endangered Species Act.

That section says that all other federal agencies have to insure that any actions they carry out, fund, or authorize will not jeopardize an endangered or threatened species.* For example, we wouldn't be allowed to build a water level control dam funded by Pittman-Robertson money (which is administered by the federal govern-

ment) if it would flood the last remaining patch of some endangered snapdragon. Such an area would be critical to that plant's continued existence—just as the little warm-water spring which is home for the Devil's Hole pupfish is critical to its existence. In fact, the Endangered Species Act goes a step further, providing for the designation of official "critical habitat" for endangered species. This is determined by teams of scientists spe-

*The catch here is that, according to Supreme Court decisions, once the agency has conferred with the Secretary of the Interior, the involved agency itself makes the decision of whether or not its actions will destroy the species or a major portion of the critical habitat.

BALD EAGLES—a few of them—breed in Pennsylvania. Loss of habitat is one reason they're endangered, and the habitat protection sections of the Endangered Species Act may help to save them. Protection from disturbance while nesting and more careful use of pesticides are also necessary.

Photo by Charles G. Summers, Jr.

cializing in each particular species, after field surveys, review of scientific literature, and consultation with other wildlifers. Proposed critical habitat listings are published and the public may comment on them. Once critical habitat is official, though, federal agencies are prohibited from doing anything which would destroy or modify that habitat. Nor may they fund any other projects, or issue permits to other agencies or businesses, which would destroy or modify the habitat.

Too Inflexible?

By far the majority of conflicts arising over federally funded or authorized projects have been worked out amicably by the Interior Department and the agency involved. However, a few have turned out to be difficult. A recent widely discussed example is the Tellico Dam project of the Tennessee Valley Authority. Depending on whom you ask, Tellico might be described as either a crucial flood control and recreational facility or a wasteful, ill-advised porkbarrel fiasco. Either way, the fact remains that it would destroy critical habitat of a tiny, obscure fish known as the snail darter. Complicating matters is the fact that a considerable sum of money had already been sunk into the project before the Endangered Species Act threw a wrench into the works. Many people are unconcerned about a little creature that almost no one had heard of before this battle, when millions of dollars of already-spent monies and potential future in-



come hang in the balance. They couldn't care less that a unique organism would disappear forever if this dam were built.

To reduce the possibility of such impasses in the future, several bills have been introduced into Congress to amend this section of the Endangered Species Act. They would allow such projects to go ahead if a panel of administrators decides that the value of the project is more important than the value of the species involved.

Some conservationists see such an amendment as an opening wedge which will eventually lead to the emasculatation of the Act; others feel there is so much backlash now that without such a conciliatory amendment to provide flexibility, the entire Act may be scuttled.

I would like to "editorialize" for a moment by quoting from the National Wildlife Federation's editorial (*Conservation Report*, May 19, 1978):

"Now, instead of taking a long, hard look at the Tellico and other develop-

ment projects of questionable value, some members of Congress are telling us they never intended to preserve the darter or so-called insignificant species.

“What makes a species insignificant? And who makes that presumptuous determination? Would we have judged plants of the genus *Cinchona* insignificant before discovering quinine? There is strong evidence that sponges may provide the key to curing viral disease, and armadillos to curing leprosy. Which of these might we, in our ignorance, have at one time judged insignificant?

“We agree with Sen. Culver that we might start with an operative presumption that our ecosystem is a magical, seamless web over which we have a

certain stewardship responsibility. That responsibility extends to all species, to all biological diversity. These are the principles which guided Congress when it passed the Endangered Species Act, and which must be reaffirmed by Congress now and in the years to come.”

We’ve taken a look this month at the kinds of things which the federal and state endangered species laws prohibit—the protective phase of endangered species programs. In a later article we’ll examine some of the things which are being done to help a few hard-pressed species fight back from the brink of extinction. There have been some success stories, and we’ll look at several of them.

Some Keep 'Em, Some Lose 'Em

Salamanders are distinguished from other amphibians by the possession of a tail throughout their lives. Frogs and toads have a tail only during the tadpole stage.

Some Still Dependent

Seals and walruses have not yet freed themselves from dependence upon the land. They still must bring forth their young there, but whales and sirenians live entirely in the water.

GAME NEWS

Enclosed find check or money order for \$..... for my subscription to the Pennsylvania GAME NEWS.

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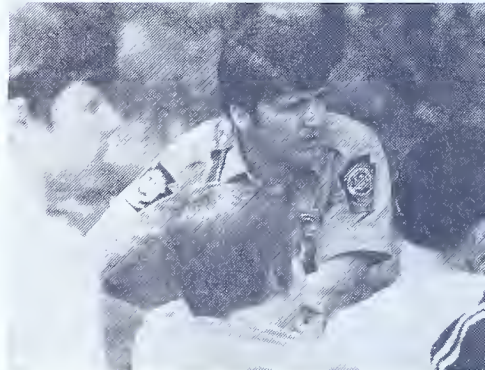
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Trainees to Trainers



PICTURE-pretty fox.

DIFFERENT feet for different uses, Don Smith explains at the Bird Identification station (right). At far right, students are initiated into the mysteries of the official car—including a tryout of the mobile radio and flashing lights.



APPARENTLY deep in his subject, Steve Gehringer answers a question about Game Law.

DIET AND tooth types are related, Schweitzer explains at Mammal ID.



"STILL DON'T SEE HIM?" Charlie May queries at Hunter Safety station. A hypothetical shot was set up, with a trainee dressed in camouflage behind a large bush. Even with binoculars, no one saw him. The moment he removed the camo jacket to reveal a fluorescent orange vest, everyone noticed.

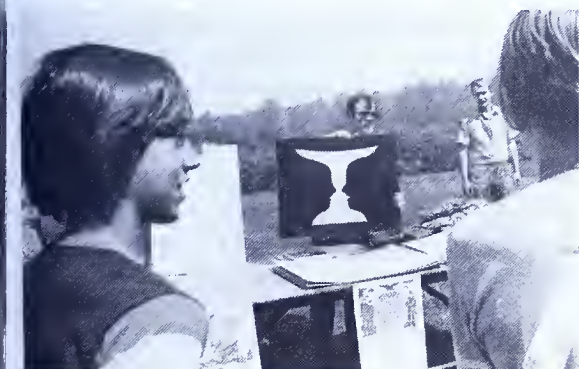


AT THE ENDANGERED SPECIES STATION, John Roller uses a confiscated ferret as a model while describing the predicament of the black-footed ferret.

FOR 26 YEARS, all the sixth graders in Brockway have spent a day at the PGC's Ross Leffler School of Conservation. Students form small groups and rotate among several stations for discussions, demonstrations and fun. Conservation officer trainees become trainers, teaching about wildlife and conservation. The 17th Class is shown with 1978's sixth graders.

Photos by Joe Osman and Toni Williams

POSTERS illustrating optical illusions engender much discussion. Doug Killough involves students at Hunter Safety station.



AT FURBEARERS and trapping station, Rich Skubish explains the difference between guard hairs and underfur.





FIELD NOTES



That's OK—Just Keep Fishin'

LAWRENCE COUNTY—A recent confirmed sighting of a black bear has caused a furor among some citizens of this county. The bear was last seen on the fish-for-fun area of McConnell's Mill State Park. I don't know if the bear was fishing—but I do know that I wouldn't like to check him for a license.—DGP Gene W. Beaumont, New Castle.



Asking for Trouble

SNYDER COUNTY—May was bear complaint month for me. One unusual situation existed here in our limited mountainous area. A female and two yearling cubs were coming out to feed in an old cornfield, and hundreds of onlookers gathered every evening. With so many people in a group, some are inevitably thoughtless. Photographers popping flash cubes in the bears' eyes, others throwing ears of corn at the sow and yelling at them, dogs barking and running, and, yes, the real he-man with his 44-caliber pistol strapped to his hip in case the Big Bad Bear might attack for "no reason"! I guess there will always be some people who cannot understand and appreciate wildlife for what it is.—DGP Dave Myers, Selinsgrove.

Help Wanted

LANCASTER COUNTY—Would you answer this help wanted ad? "Position open—Must provide own vehicle for company business, no mileage paid. Must provide own working uniform, two-way radio, and other equipment that may be needed to perform the job. Must be willing to work long and unusual hours for little or no pay. Must be able to get along well with people while under pressure. Also this job may be hazardous to your health and family life." Not many people would even consider a job like this, yet I have a crew of deputies who have done all the above and more. I'd like to take the time to thank the deputies of District 36-1 for a job well done.—DGP John A. Shutter, Lancaster.

It's a Miracle!

ERIE COUNTY—Dave Cherico, a student at Mercyhurst College, was gathering woodchips from a pile behind the school. He carefully avoided a mallard's nest of twelve eggs at the base of a nearby apple tree. A fellow student approached and saw the nest for the first time. In genuine amazement he shouted to Dave, "You're not going to believe this, but a bird's nest fell out of the tree and didn't break an egg!" The student still doesn't know why Dave found his discovery so hilarious.—DGP Andy Martin, Erie.

No Rest With Wildlife

VENANGO COUNTY—I was recently asked what a game protector does after hunting season is over. The man asked if we just "took it easy." Having started at 4 a.m. with a dovetail survey and progressed through a live fawn pickup, road-kill pickup, and even a wildcat complaint, I would like to assure the questioner that when working with wildlife there is no "taking it easy."—DGP Len Hribar, Seneca.

Trying to Adapt

Some of the mallards nesting on the west shore of the Susquehanna River have learned they can escape heavy predation of their nests by raccoons and the unpredictable levels of the river by nesting on the nearby steep, wooded ridges. But another hazard has to be met as they cross busy Routes 11 and 15 to return to the river. Recently, Food and Cover workers Marlin Newman and Gary VanHorn witnessed a trailer truck wiping out seven of a brood of nine ducklings as they crossed the highway. The mother hen waited patiently as the men rounded up and delivered the two remaining ducklings to her. As she headed for the river she probably thought two is still better than none.—LMO Kerm Dale, Middleburg.

Wing-ed Wonder

LEHIGH COUNTY—I received a call from a woman who was concerned about an uninvited guest at one of her wren houses. One morning her husband noticed that two of the three wren houses had had their entrance holes enlarged by a gnawing animal of some sort. Tapping the bottom of one of the boxes resulted in a medium-size rodent running out of the hole and “swooping” down past the startled people. The obvious concern of the woman about being attacked by this flying menace, along with her interesting description, aroused my curiosity. I investigated and learned that a female flying squirrel had decided the wren house was a good nesting site. Two wrens were occupying one of the other houses, so I explained to the woman about the other small creature and she is now eagerly awaiting the arrival of her new “house guest.”—DGP Warren Quig Stump, Germansville.

Shaky I.D.

BUTLER COUNTY—The last four road-killed deer one of my deputies was called on to pick up after dark turned out to be two dogs, one feed sack with feed and one large cardboard box.—DGP Larry Heade, Butler.



Ingenious

LYCOMING COUNTY—Bob Latimer from Muncy is a locally well known sportsman, particularly when it comes to waterfowl. Bob is a retired Game Commission employee who usually has a pretty good story to tell when you run into him. He was checking a hunter one day but the hunter had no means of identification, which made Bob a little suspicious. These suspicions were cleared up when the hunter removed his upper dentures, which he had received while in the military service. Believe it or not, the dentures were inscribed with the hunter's name, rank and serial number! By the way, Bob just received a much-coveted award from Ducks Unlimited for his work with waterfowl.—DGP Bob Fala, Linden.

Encouraging

CLEARFIELD COUNTY—This month I had the pleasure of presenting the awards to the winners of the FFA wildlife projects for the Northcentral Division. They went to members of the Clearfield FFA Chapter. Over the past several years this chapter has won state, division and chapter awards from this Game Commission program. The members show enthusiasm and interest in all the projects they become involved in. With this type of dedication, the future of our wildlife resources is in good hands.—DGP Wayne McGinness, Clearfield.

Rarely Barren

MONTOUR COUNTY—While examining an adult doe that was killed by an auto, I experienced a first in my nine years in Montour and northern Northumberland counties. It was the first adult female deer checked by either my deputies or me that was not pregnant. Usually all adult does in this district are carrying twins and it's not uncommon to find last year's fawns expecting before their first birthday.—DGP Dick Donahoe, Danville.

Wrong Perch

FAYETTE COUNTY—On May 23 my neighbor found a great horned owl and a large rat, lying side by side on his lawn under an electric transformer and high tension line carrying 12,500 volts. The owl apparently got tangled in the wires when attempting to perch with its meal. The exam revealed a scorched right leg—instant death to both by electric shock.—DGP A. J. Ziros, Connelville.



No Favor

CLARION COUNTY—Recently, a bear has been annoying some people by raiding bird feeders, cat food, garbage cans and anything else that it could eat. This obviously was a bear that was used to getting its food from humans, and it took quite an effort to discourage it from coming around. It looks like we will always have people that will make nuisances out of wild animals by trying to "tame" them.—DGP James G. Bowers, Knox.

No Excuses!

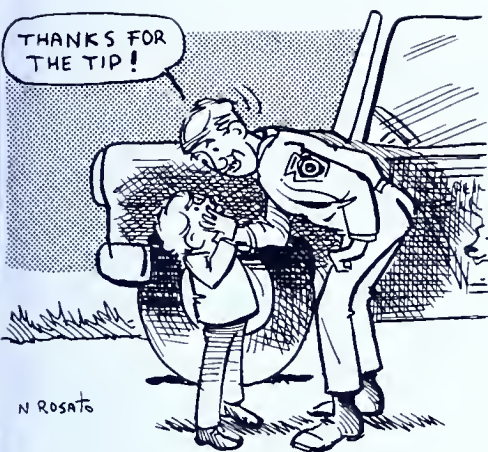
FRANKLIN COUNTY—Recently I stopped by the office of a local District Justice with my eight-year-old son Doug. The secretary asked him what his dad did for a living and Doug replied, "He's a game protector." The secretary said, "Oh, how does he do that?" The boy's perfectly candid reply "I don't know. It seems like most of the birds and animals I bring home die." When the laughter died down, I tried to explain that the conditions of most of those animals would test the skills of a practicing veterinarian. I might just as well have kept quiet. Doug's remark was all they wanted to hear.—DGP Frank Clark, Chambersburg.

Unrealistic

WESTMORELAND COUNTY—In this society our children, we think, are much more aware of the realities of life than we were at their age. But when it comes to the realities of where we get beef, poultry and other meat products, we find they don't realize the animal had to die before it was packaged in that neat cellophane. Unfortunately, they think of animals in two ways: one living in barnyards and one packaged in a supermarket.—DGP R. D. Hixson, Ligonier.

For You and For Them

LUZERNE COUNTY—We strongly recommend that wildlife be left alone in its natural surroundings, not only because that's where it was meant to be and where it survives best, but also because frightened wildlife will use its only defense to get away: biting its attacker. This creates a serious problem, for if the animal then escapes out of sight, there is no way to determine which animal did the biting for they all look alike. Then, although there are few rabid animals in the wild, a medical doctor will have just two choices: play the percentages and just treat the wound or start the painful anti-rabies shots. For the benefit of yourself and wildlife, *Please leave them alone!*—DGP Bob Nolf, Conyngham.



An' That's the Truth!

CLINTON COUNTY—As I was getting out of my state vehicle in Renovo, a boy about five years old approached me. He looked at the Game Commission emblem on the door—a decal of a white-tailed deer head—and then tugged at my shirt to get my attention. Then with all the innocence and trust of a young boy he whispered, "If you kill one of them when you're not supposed to, the woods cop will arrest you."—DGP John Wasserman, Renovo.

A Good Idea

NORTHAMPTON COUNTY—Our second annual Hunter Education Instructors' Banquet was held in May with approximately one hundred in attendance. Everybody had a good time. Awards were presented by Executive Director Glenn L. Bowers and tribute was paid to the hard working instructors. The only other county I know of that had this type of program was Butler County. With the interest in hunter education throughout the Commonwealth, I'm surprised more counties don't adopt such a worthwhile program.—DGP Richard W. Anderson, Nazareth.

Waste

After hunting spring gobblers on two Saturday mornings and not doing too well, I was disheartened to see a fine gobbler run in front of a vehicle on the Williamsburg Mountain and not survive his trip.—LEA Jim Moyle, Alexandria.

Well-Behaved and Not Forgotten

CENTRE COUNTY—While investigating a bear damage complaint near Howard, the claimant remarked on how difficult it was to drive the bear away from his hives. We were looking for the best place to set a trap when we noticed two fuzzy black balls in the top of a nearby pine. We decided to wait and see what would happen, as we didn't want to trap the sow and remove her from her cubs. During the day the temperature reached 83 degrees, yet the cubs stayed up in that tree. The sow finally came back for them after twenty hours. That is truly a lesson in obedience. Now, if I can only figure out a way to get my kids to behave that well!—DGP George Mock, Coburn.



Shared Habitat

Someone gave Jim Kightlinger a large snapping turtle. He took it home and placed it in a small pond he had constructed near his house. His dog barked all night. Next night, same story. Not knowing what was bothering his dog, Jim and his wife decided to investigate. As they approached the doghouse just at dawn, the snapping turtle emerged and ambled down to the pond. He had been taking up residence in the doghouse during the night and would stay in the pond during the warm days. Not a very fair arrangement as far as the dog was concerned.—LMO John R. Miller, Meadville.



Identity Crisis

CUMBERLAND COUNTY—In May, I received an unusual report. A gentleman noticed a mallard hen sitting in his tree. It was there for a week. Upon investigating via a long ladder, he found the normally ground-nesting duck had nested and was sitting on 10 or 12 eggs about 30 feet up. Mother hen may have thought she was a wood duck instead of a mallard.—DGP Jim Filkosky, Mechanicsburg.

Silver Lining

WESTMORELAND COUNTY—I recently spoke with a nursery owner who suffered thousands of dollars in damage to his plants by deer during the past severe winter, but he did not complain and does not want to harm the deer in any way. He told me how he and his two-year-old son were driving by some of his property when they had a chance to watch four deer at less than thirty yards and how excited and thrilled his son was. He stated, "The deer paid me back for the crop damage by this display for my son."—DGP T. C. Flanagan, Mt. Pleasant.

Don't Miss It

RLSC—Just a reminder: September is a good month to prepare for the upcoming fall hunting season by attending a hunter education course.—Trainee Richard J. Skubish.

Finally Caught On

MONROE COUNTY—About five years ago, Waterways Patrolman Walt Burkhart erected a nesting box for screech owls about 30 feet from his house. During that period it was used by either squirrels or birds. Finally, this year he noticed movement in the box and upon checking closer, saw three young owl fledglings. During the day, the adult birds could be seen perched in a nearby tree. Toward dusk they alternated in flight, returning to the nesting box with food for the young owls for several hours after darkness. They then vanished, apparently hunting for themselves.—DGP David Overcash, E. Stroudsburg.

Remember That Number!

GREENE COUNTY—The SPORT Program is really working here in Greene County; twice this month I have been called about persons shooting from the road at game. On each occasion the concerned citizen had a good description of the violators and the vehicle used, but both times failed to get the license number. One time, the slobs shot a doe and left her to rot and came back the next day to survey their work. The calls are a great start, but not enough to apprehend the lowlife that does this kind of shooting. Please, if you observe a violation, get that license number—it will make a difference!—DGP B. J. Seth, Wind Ridge.

For the Future

WASHINGTON COUNTY—Recently I attended a program held by the Pennsylvania Trapper's Association at the Raccoon Valley Sportsmen's Club in Rea. Although the weather wasn't the best, approximately 250 people turned out for instructions on trapping and related subjects. I think the men and women that donated their time and knowledge should be commended for doing their part to insure the right of future generations to trap.—DGP J. G. Sickenberger, Houston.

Over Three Million Seedlings Planted

By Ted Godshall

WILDLIFE will soon be benefiting from over 3.1 million tree and shrub seedlings planted to improve wildlife habitat throughout the state. The seedlings were produced at the Pennsylvania Game Commission's nursery at Howard in Centre County. Plantings were made in recent months. Sportsmen's groups, conservation clubs, soil and water conservation districts, landowners cooperating in programs of the Game Commission designed to keep private holdings open to public hunting, other governmental agencies, coal stripping operators and others received the seedlings which will provide future food and cover for wildlife.

More than half of the seedlings were planted by Game Commission personnel on State Game Lands (tracts which have been purchased over the years with funds derived from the sale of hunting licenses and maintained as public hunting areas) and on Farm Game and Safety Zone projects (privately-owned agricultural land which is kept open to public hunting through the courtesy and cooperation of landowners).

Species distributed included scotch pine, white pine, Austrian pine, mugho pine, Norway spruce, white spruce, hemlock, willow, bittersweet, autumn olive, black locust, flowering dogwood, grey dogwood, Amur honeysuckle, chestnut, Asiatic crabapple, sawtooth oak, bristly locust and privet.



MUCH OF THE WORK connected with producing over 3 million seedlings must be done by hand by dedicated employees such as these. But they know their efforts are for a worthwhile cause—to benefit wildlife.

Responding to increased expressions of concern by the farming community and farm organizations over the spread of multiflora rose into fallow fields and pastures, the Game Commission has drastically curtailed production of multiflora rose seedlings at the Howard nursery, and distribution is now prohibited to public or private landowners in agricultural or grazing regions.

Seedlings produced at the nursery are provided free of charge by the Game Commission, and planting and maintenance for the benefit of wildlife are usually provided by thousands of interested sportsmen and landowners.

Vermont Conservation Officer Killed

Vermont Conservation Officer Arnold Magoon died April 27 from a blow on the head received the night before while he was investigating a jacklighting incident. Magoon, 47, of Brandon, Vermont, had apprehended two men and a woman. During an ensuing scuffle, one of the suspects hit Magoon on the head with his flashlight. Magoon died fourteen hours later. Fellow conservation officers from neighboring states paid their respects at a funeral on April 30. (At least three Pennsylvania game protectors and several deputies have been killed in the line of duty since 1906.)

New Game Protectors Receive Assignments

MEMBERS of the seventeenth class of game conservation officers graduated from the Game Commission's Training School reported to their field assignments on July 5.

About half of the graduates will assume duties of game protectors in assigned districts, while the remaining officers will temporarily work out of Game Commission field division headquarters.

Graduation exercises for the class were held June 24. Training classes for

the group began in July, 1971. Classroom instruction and field training included biology, land management, Game Law and related law study, legal procedure, police sciences, game management and propagation, public relations, public speaking and physical education.

Members of the seventeenth class, along with their home towns, and the counties or Game Commission field division offices to which they have been assigned as game protectors, follow:

<i>Name</i>	<i>Home Town</i>	<i>Assignment</i>
Charles J. Arcovitch	Luzerne	Cambria
Mark A. Crowder	Indiana	Fulton
James J. Donatelli	Monroeville	Mercer
Dennis E. Dusza	Vintondale	Northcentral Division Office
Steven D. Gehringer	State College	Tioga
Lawrence D. Haynes	Jeannette	Adams
Douglas M. Killough	Ivyland	Southwest Division Office
Stephen A. Kleiner	Hollidaysburg	Greene
David R. Koppenhaver	Harrisburg	Bucks
Thomas R. Littwin	Birdsboro	Dauphin
Robert L. Lumadue	Clearfield	Northwest Division Office
Charles H. May	Nelson	Southwest Division Office
John B. Roller	Williamsburg	Northcentral Division Office
Stephen J. Schweitzer	Julian	Southcentral Division Office
Richard J. Skubish	Philadelphia	Philadelphia
Donald R. Smith	Butler	Fayette
Gary W. Smith	Oley	Southeast Division Office
Robert C. Snouffer	Elverson	Westmoreland
Ronald L. Stout	Columbia Cross Roads	Northeast Division Office
Clayton G. VanBuskirk	Lewisburg	Southeast Division Office
William C. Wingo	Galeton	Northwest Division Office

One Winner

All bumblebees die in the winter, except the queen bee. She alone survives to produce another generation.

Just In Case You Care

The male swan is called a cob, the female a pen, and the young, cygnets.



TWENTY-ONE new game protectors
recite the Oath of Office.



KEY SPEAKER
John C. Oliver III,
Western Pa. Con-
servancy.



CLASS speak
Dennis Dusz



SWEETHEARTS,
families are
glad long year
is ended.

MARK CROWDER
(left) is congratu-
lated by Supt. Jim
Williams. Right, Jim
Donatelli receives
diploma from Exec.
Director Glenn
Bowers



COMMONWEALTH OF PENNSYLVANIA
HUNTING LICENSE APPLICATION

NO PERSONAL CHECKS ACCEPTED

Certified Check or Money Order

Required for Mail Orders

Check Type(s) Desired

Price Includes
Agents FeeAgent Write
in Total
Cost of License Sold

Resident Adult (17-64 yrs. of age)

\$8.25 ☐

Resident Junior (12-16 yrs. of age)

\$5.25 ☐

Resident Senior (65 years and older)

\$5.25 ☐

Non-Resident

☐

Muzzle Loading

\$3.25 ☐

Archery

\$2.20 ☐

Non-Resident 3-Day Reg. Shoot. Grounds

Valid from _____ to _____ only on Reg. Shoot. Grd. \$3.15 ☐

*Resident Disabled War Veteran Claim No. _____

Free ☐

ALL MAIL ORDERS - Add \$.25 Postage

Total

*Available only from County Treasurers

Print Plainly

Name _____
(First) (Middle Initial) (Last) (Occupation)Legal Residence _____
(Street or R.F.D.)

City _____ State _____ (Zip Code)

(County) _____ Date of Birth _____ / _____ / _____
(Month) (Day) (Year)Age _____ Color _____ Color _____ Weight _____ Height _____
Hair _____ Eyes _____Sex: ☐ Male ☐ FemalePlace of Birth _____ / _____
(Post Office) (State) (Nation) Resident of Pennsylvania since _____

I certify that above information is true and that my hunting privileges have not been revoked for this license year. Under 16 years of age (Resident or Non-Resident) have presented Hunter Safety Certification

_____ or prior hunting license # _____

(Signature of Applicant and parent or guardian for persons under age 16)

(Date)

I hereby certify that applicant has properly identified himself/herself and in my opinion is entitled to the license(s) listed.

(License No.) (Archery Lic. No.) (Muzzle Loading Lic. No.) (Signature of Issuing Agent)

Agents Not Responsible for Licenses lost by Mailing.

Mail Application and correct amount of fee (Include \$.25 postage) to the PENNSYLVANIA GAME COMMISSION, LICENSE SECTION, HARRISBURG, PA. 17120. (DO NOT SEND STAMPS). Hunter under 16 years of age must present proof of Hunter Safety Training or prior hunting license. (Preferably a photostatic copy). Non-Resident 3-day Regulated Shooting Grounds Licenses are not valid for any general small or big game hunting. Mail orders for Resident Hunting Licenses must include positive proof of residency in this Commonwealth.

LICENSE FEES ARE NOT REFUNDABLE

Hunter Ed. Refresher Courses



HUNTER EDUCATION INSTRUCTORS at refresher course in Southeast Division. Forty-two such courses have been attended by a total of over 1,000 instructors. It's persons such as these who make Pennsylvania's HE program so successful.

By John Behel

Hunter Education Coordinator

TO JUDGE BY attendance at forty-two instructor refresher classes, Pennsylvania's dedicated hunter education instructors are really interested in their volunteer work. One thing for sure, they have given of their time and money to present hunter education to more than three-quarters of a million first-time hunters since 1969.

So far, 1,095 instructors have attended the refresher courses. Their comments about the program, including recent changes, have been generally favorable. Many lauded the expansion of hunter education classes to a minimum of six hours, and appreciated attempts to develop uniform teaching across the Commonwealth. Instructors were also enthused about the SPORT ethics program, which is

now presented with "Hunter Responsibility" in all hunter education classes. Some have been promoting SPORT beyond their regular classes, to involve adult hunters. They feel strongly that adult hunters and parents should receive the SPORT message also.

Parents and adult companions are important to the hunter education program in several ways. Parents, for example, influence youngsters' behavior, and therefore their teachability. Have you ever tried to teach youngsters who don't want to learn? Or who think all they have to do is attend—that they don't have to make any effort to listen or learn? Youngsters who haven't received much adult supervision or discipline are difficult, and hunter education instructors some-

times have to remove disruptive students. About five percent of those attending classes aren't certified the first time through, because of attitudes or grades.

In six hours, instructors can present only the basics of responsible hunting. Whether this "takes" or not depends not only on how receptive the youngster is during class, but also on how well parents and friends reinforce what we teach. Adult hunters have a responsibility to develop young hunters' ethics and actions in the right direction.

Works Two Ways

Of course, it can work two ways. The lessons a youngster learns in hunter ed. classes may rub off on parents and friends. And adults are attending classes in increasing numbers. Clarion County DGP Jim Bowers, of Knox, writes of his hunter education classes: "It's interesting to note the number of adults that are taking hunter education courses because of adult hunting requirements of other states. I am glad to see parents take hunter education with their youngsters. I honestly feel that, on the average, the young hunters already have a better attitude in both safety and in sportsmanship."

Occasionally, a disgruntled adult complains about having to take the hunter ed. course to hunt in another state where certification is required. Sometimes a parent will conclude that he can teach his son or daughter all that's needed and should be allowed to waive the minimum six-hour course. Most don't consider staying for the course themselves; they just turn over the young folks to the instructor. However, the Game Commission encourages their participation as a sort of refresher training. What better way is there to ensure a good hunting relationship with your son or daughter?

One parent wrote about accompanying his twelve-year-old daughter to a course at the Meadville Sportsmen's Club. An avid, experienced hunter, he considered himself well versed in such fields as Game Law, hunting safety, equipment, etc. So he didn't intend to stay for the full session, from 9 a.m.

until 3 p.m. Yet he did stay, caught up in what served him as a refresher course.

We doubt that the general public, including many parents of young, would-be hunters, knows how comprehensive, informative and important these courses are.

Safety remains the primary theme, but it is not cursorily taught. That is, instructors do not merely sound general warnings about firearms use. Safe use of each general type of sporting firearm, of ammunition types and powers, and of archery equipment is not only promoted but also demonstrated. And each youngster is quizzed on these particulars before he "graduates."

The value of such instruction is underlined by the fact that Pennsylvania's hunting accident rate (always low) has declined since the advent of hunting education courses even though the number of hunters has increased.

The legislature is also taking a concerned look at compulsory hunter education for *all* first-time hunters—not just youngsters—desiring to purchase a hunting license. That legislation is presently in committee with proposed amendments to allow first-time Pennsylvania license buyers who have previously hunted to submit affidavits to that effect.

Pennsylvania hunter ed. instructors have already experienced the responsibility each year of teaching 55,000 under-16 first-time hunters. If the above-mentioned legislation passes, each year volunteer instructors will have the responsibility of teaching an additional 50,000 over-16 first-time hunters. That means the already overworked hunter education instructors are going to need help from other dedicated volunteer instructors.



Best Safety Record

PENNSYLVANIA hunters compiled their best safety record of all time during 1977, the final annual tabulation by the Game Commission shows. Last year only ten fatal hunting accidents occurred among the million and a quarter hunters afield in this state. This is the lowest number of fatalities ever recorded in Pennsylvania, which has more hunters than any other state in the nation.

In 1976 there were only thirteen fatal hunting mishaps, which had been the previous record low.

Three of the ten fatal accidents last year were the result of self-inflicted injuries. Four of the remaining seven involved persons who were shot in mistake for game, perhaps the most tragic of all fatal mishaps.

By way of comparison, there were 72 fatal hunting accidents in Pennsylvania in 1931, and 65 in 1927, when hunters numbered only about 40 percent of those afield today.

The 237 non-fatal hunting accidents last year constituted the second lowest figure in that category since 1945. In 1976, there were 224 non-fatal mishaps.

The hunting accident rate has dropped sharply in the state since 1968, when it became mandatory for all youths under 16 to satisfactorily complete a hunter education course before

they could purchase a hunting license. There were 530 Pennsylvania hunting accidents in 1968, compared to 247 last year.

The Pennsylvania Federation of Sportsmen's Clubs has gone on record as favoring legislation requiring that all first-time hunters, regardless of age, complete the hunter education course before being permitted to purchase hunting licenses. The Game Commission also favors such legislation.

Mandatory hunter education for youths, plus increased use of daylight fluorescent orange safety material by hunters, is believed to be mainly responsible for the big reduction in the number of hunting accidents.

For more than ten years the Game Commission has asked that there be a law requiring the wearing of fluorescent orange material while hunting certain species. A bill which would require wearing a minimum of 250 square inches of daylight fluorescent orange on the head and back combined by all hunters during the regular firearms seasons for big game only has been passed by the Pennsylvania Senate.

Last year 25 persons in Pennsylvania were shot in mistake for game. Not one of the 25 was wearing fluorescent orange. Five of the 25 victims were wearing red material.

Beaver Harvest Drops Sharply

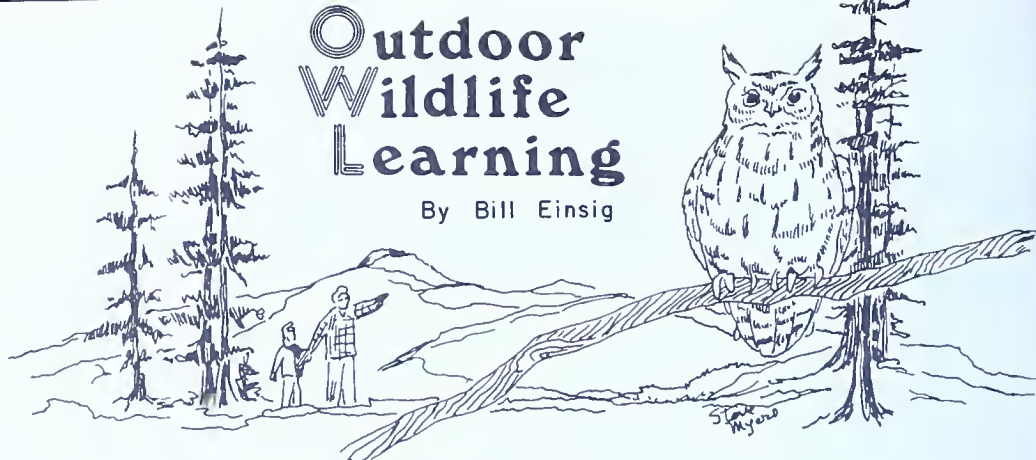
TRAPPERS harvested only 1,404 beavers during the 1978 season, the Game Commission figures show. The harvest was the lowest in the state since 1949.

Last year, trappers took 3,227 of the big flat-tailed aquatic furbearers in the Keystone State.

This year's severe winter weather and steady beaver prices are believed to be mainly responsible for the sharp drop in the harvest. Field reports indicate there has been no comparable dip in beaver populations.

The leading county for beaver pelts in 1978 was Crawford, with 167. Second was Erie, with 110, and third was Wayne, with 103. Last year Crawford produced 464 pelts, Wayne accounted for 285 and Susquehanna recorded 219. Altogether, ten counties produced more than 100 beaver hides last year, compared with just three in 1978.

Although Pennsylvania's prime beaver range is in the northern part of the state, flat-tails were taken in 50 counties this year.



Movies are fine teaching tools but too often they are not used to their full potential. Many teachers show a film now and then to break up class routine or to add interest. Generally, the film is introduced with a few cursory remarks, and afterwards the instructor might ask or answer a few brief questions. That's a shame because the film's content and photographic footage could be used more profitably.

In fact, most of us know that something new can be gained by watching a good movie several times, just as re-reading a book can reveal new thoughts and new insights. And yet, to most teachers, there's something about showing a film twice that's not quite right—almost as if the teacher is cheating and just wasting time. That need not be true, and a bit of planning beforehand can make a film viewing more than an entertaining interlude.

Some films come with a brief summary and perhaps a few discussion questions, but more than likely these will have been long lost when the film comes your way. Ideally, the teacher should preview the film—taking copious notes—and develop a lesson plan for the film's use. That sounds good, but most people connected with education know that teachers don't have time to correct papers during school hours much less design new lesson plans. So . . . the movie is simply shown and everyone hopes the students retain some of what they saw.

OWL would like to offer some sample lesson plans for two of the Game Commission's films—"Wildlife Marvels" and "Game Lands for Wildlife and People." If you're a teacher, give the plans a try and modify them as you see fit. If you're not a teacher but interested in wildlife education, put these ideas into the hands of your local teachers, help them to get the films and encourage their use.

LESSON PLAN, "WILDLIFE MARVELS"

16mm - Color - Sound - 30 Minutes

Overview:

This popular movie is full of outstanding wildlife footage that kids love. Over two dozen species of birds and mammals are shown at close range, capturing food and caring for their young.

The star of the show is the red fox. He's followed through the seasons, eating what he can find. As the seasons change, other species are shown doing what come naturally. Hawks and owls capture and eat mice and sparrows, grouse drum and the pileated woodpecker pounds regurgitated food into the waiting mouths of its young.

Objectives:

After viewing "Wildlife Marvels" and completing the follow-up activity, the student should be able to:

(1) List three kinds of food eaten by the red fox.

(2) List one kind of food eaten by each of the following:

- | | |
|-----------------------|------------------------|
| a. Dove | f. Mink |
| b. Cardinal | g. Woodchuck |
| c. Red-Tail Hawk | h. Goose |
| d. Sharp-Shinned Hawk | i. Cottontail |
| e. Great Horned Owl | j. Pileated Woodpecker |

(3) Define the terms "carnivore" and "herbivore."

(4) Describe in written or oral form, to the teacher's satisfaction, one of the following topics:

- Hibernation
- Effects of DDT on raptors
- Metamorphosis in butterflies and moths

Activities:

(1) Preview the "Wildlife Marvels Worksheet" to know what kind of tasks

you'll be asked to do.

(2) View the film "Wildlife Marvels" and complete Section I as you watch.

(3) Complete Section II of the worksheet after viewing the film.

(4) Choose one topic from Section III of the worksheet and be prepared to discuss the topic in written or oral form as assigned by your instructor.

(5) Discuss and compare your worksheet with the class and the instructor.

Evaluation:

Instructor's discretion

WILDLIFE MARVELS WORKSHEET

Section I

Check each species in the list below that appears in the film.

Red Fox	Osprey
Mourning Dove	Wild Turkey
*Goldfinch	Killdeer
Cardinal	Cottontail
Red-Tailed Hawk	Quail
Sharp-Shinned Hawk	Rufous-Sided
Great Horned Owl	Towhee
Saw-Whet Owl	Cardinal
Mink	Robin
*Black Bear	Yellow Warbler
Deer	Pileated
Ruffed Grouse	Woodpecker
Fox Squirrel	Downy
*Muskrat	Woodpecker
Woodchuck	Polyphemus Moth
Canada Goose	*Monarch Butterfly
*Bald Eagle	

*Instructor should note that the species marked with asterisks are *not* included in the movie.

Section II

Construct a food web by connecting each species in the list above to its food(s), listed below.

mice
plants
grain
sparrows
grasshoppers
mushrooms
frogs
insects
seeds

Section III

Choose one of the following topics mentioned in the film and research it further. Be able to discuss it orally or in written form as assigned by your instructor.

1. Hibernation
2. The effects of DDT on raptors
3. Metamorphosis of butterflies and moths

LESSON PLAN, "GAME LANDS FOR WILDLIFE AND PEOPLE"

16mm - Color - Sound - 30 Minutes

Overview:

The major thrust of this film is to point out the many opportunities for non-hunters as well as hunters on the 1¼ million acres of Game Lands scattered across Pennsylvania. Six of the 260 Game Lands are highlighted to show possibilities for hiking, bird-watching, nature photography and various kinds of formal and non-formal outdoor education.

The film makes the point that the key to successful wildlife management is careful habitat management. Also, as the habitat is managed for game species, numerous non-game species also benefit and prosper.

A wide variety of action shots enrich the film and make it come alive as one of the best wildlife films available. Included are waxwings, grosbeaks and tanagers; deer, woodcock and turkey; red-tails, raccoons and ruffed grouse—plus many more.

Objectives:

After viewing the film and completing the activity, the student should be able to:

- (1) Discuss the purpose of Game Lands.
- (2) Trace the source of funds used to purchase and maintain Game Lands.
- (3) List at least five forms of recreational activities that can be done on Game Lands.
- (4) Others at teacher's discretion based on content relative to species shown and their natural history.

Activities:

(1) Divide the class into two or more teams of seven or eight students each.

(2) Explain that this will be a contest to see which team is able to collect the most information from the film. Each team should decide who in their group will collect certain information for each of the three areas below:

- a. Species checklist
- b. Species questionnaire
- c. Game Lands questionnaire

(3) View the film.

(4) After viewing the film, allow team members to exchange information. Each student will be responsible for all information and not just the one he or she was

working on when the film was shown.

(5) Arrange the room for the question/answer game and decide the order of play.

(6) Ask questions in order similar to the old-time spelling bees or give each team a clicker and play it like the TV game show "Jeopardy"—first team that clicks answers the question. Deduct points for wrong answers. Students may use their data sheets during the game at the teacher's discretion.

DATA SHEET

Species Checklist

Canada Goose
Black Duck
Red-Headed Duck
*Goldfinch
Dove
Pheasant
Quail
Barred Owl
Rabbit
*Robin
Mourning Cloak
Cedar Waxwing
Rose-Breasted Grosbeak
Blue-Gray Gnatcatcher
Chipmunk
Redheaded Woodpecker
Shovelers
Scaup
Pintails
Least Bittern
*Rail
*Coot
Heron
Bald Eagle
Nuthatch
Kestrel
Black Snake
White-Footed Mouse
Summer Tanager
Red Bellied Woodpecker
Gray Squirrel
Ruffed Grouse
White-Eyed Vireo
Red Winged Blackbird
Star-Nosed Mole
Least Shrew
Meadowlark
Killdeer
Woodcock
Fox Squirrel
Morels
Wild Turkey
Deer

Skunk

Gray Fox

Raccoon

*Porcupine

Screech Owl

Tree Frog

Pileated Woodpecker

Purple Finch

Red-Tailed Hawk

Red Crossbill

Blue Jay

Evening Grosbeak

*Instructor should note that the species marked with asterisks are *not* included in the movie.

Species Questionnaire

1. What is unusual about the red crossbill's bill?
 2. What is the bill of the crossbill adapted to eat?
 3. What is the largest woodpecker in Pennsylvania?
 4. What does the meadowlark eat?
 5. On what plant is the mourning cloak likely to be found?
 6. What color is the mourning cloak?
 7. The least shrew was eating a _____.
 8. How does the killdeer protect its young?
 9. What are morels?
 10. What kind of snake was shown eating a mouse?
 11. Was there a _____ in the film?
- (This last question should be asked many times using species from the checklist)

Game Lands Questionnaire

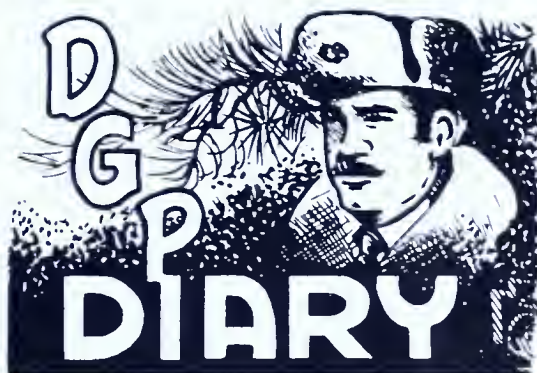
1. How many acres of Game Lands are there in Pennsylvania?
 2. List five types of recreation that can be done on Game Lands.
 3. What is the primary purpose of the Middle Creek Wildlife Area?
 4. What is unusual about SGL 95 in Butler County?
 5. Which Game Lands boasts nesting bald eagles?
 6. Which Game Lands has a blind trail?
 7. Who pays for the purchase and maintenance of Game Lands?
 8. What is browse cutting?
 9. How many Game Lands are there in Pennsylvania?
 10. Where is Siegel Marsh?
- Answers to these questions are in the film. OWL thinks teachers can get the answers as they watch too!

WITH THE cooler nights of September comes the hint of subtle change. This change reflects itself not only in the season but also in our day-to-day chores. Night patrols are blended with hunter education classes. There are pistol shoots, sportsmen's convention, more damage complaints, and even a deputy picnic. So there's always something to do—and I couldn't want it any other way.

September 1—Leo Sargent called today. He's having problems with a bear destroying a cornfield. Bears are particularly fond of field corn in the milk stage and do considerable damage to a field trying to eat it. They wallow through like a locomotive, breaking down stalks as they go. Once inside, they sit down and reach out with both "arms," gathering the stalks inward toward them to make a pile to eat from. Leo helped me set a live trap near where the bear is coming in. Maybe we can catch him and move him elsewhere.

September 2—I interviewed a new deputy applicant today at my headquarters. Most game protectors are pretty fussy about who's allowed to take the test. Some of the things I look for in an applicant are his availability to work nights and during deer season, dependability, honesty, temperament, aptitude and motivation. The last five traits are the most important. A deputy lacking any one could cause serious problems in his contacts with the public. After we talk for awhile, I generally form some impression about his character. Later, if it was a good impression to begin with, I run a background investigation. If he passes this I allow him to work with us for six months to a year. During this time we usually weed out those who are unsuitable. This period also gives the applicant a chance to evaluate us to determine if he really wants to become a deputy after all.

September 4—Tonight we've been sitting out under a tree with a portable radio. Another deputy unit has been waiting nearby. Based on information we've received, some people are supposed to kill some deer here this weekend. The information apparently was right, too, only there weren't any deer out. The suspects were spotlighting several fields, searching hard, and it looked as though one of them was in the back seat of the car with a gun. It no deer, so there wasn't anything we could do. It's frustrating. This is the first night in almost a month of surveillance that there were no deer out in these fields.



By Jack Weaver

**District Game Protector
Tloga County**

September 5—Late this evening I got an anonymous phone call telling me that the farmers we arrested in July were shooting deer again tonight. But something just didn't seem right. Farmers are allowed to kill deer for crop damage but not for the reasons my informant gave. I called Deputy Len Worden and together we drove to the area. When we got there I noticed a pickup belonging to one of the suspects parked along the dirt road. Pretty soon we saw headlights approaching. I decided to question the driver, but when I turned on the red light the pickup stopped before it got to me, began hurriedly backing up, and then took off through a cut hay field. I started after him, but as soon as he saw I was in the field he stopped and got out. It was one of the farmers I suspected. Pretty soon his brother walked up. The one I chased had been drinking and wanted to have me arrested for driving in his fields. He calmed down and even became friendly after I started to write him up for resisting inspection. They weren't killing deer so I decided to let it go, but somehow I got the feeling it was all a setup. I'm just glad I had a deputy with me to back up the story.

September 7—We had one of our practice handgun shoots today at the Scotia Range. Most of the officers in the Northcentral Division were present. Each of the six divisions holds practice shoots for their officers prior to the state competition. The division with the highest scores can win several trophies. Last year our division took the Supervisors' and the Presidents' trophies, both for superior shooting on the bullseye course.

September 9—I spent today delivering

HOW LONG HAS IT BEEN SINCE YOU GAVE A GAME NEWSSUBSCRIPTION TO A FRIEND?

hunter education posters to all the schools in my district. These indicate where various courses are going to be held. In addition to the posters, we also advertise each course over local radio stations and in the newspapers. But regardless of all this advertising, I'm sure someone will complain later about not knowing where any courses were given.

September 11—One of the deputies donated a hindquarter of beef and another made the rotating spit for the family picnic and barbecue we held at my headquarters today. While the beef was cooking, the deputies practiced their marksmanship on a target set up in the backyard. Because of the separation from our native homes and families, deputies and their families become very close to most game protectors.

September 15—I spent the past couple of days attending the fall meeting of the Pennsylvania Federation of Sportsmen's Clubs in Carlisle. Division office personnel are required to attend this affair, and usually one game protector from each division is permitted to attend. This gives us an opportunity to see firsthand the combined forces of the state's sportsmen at work. It was an experience well worth having.

September 19—Today I took my turn instructing at hunter education classes in Mansfield and the Hill Side Rod and Gun

Club in Blossburg. Most of the scheduling and instruction is done by my instructor, and I am usually called in only to teach hunter ethics and game laws. The instructors—a few deputies and concerned sportsmen—take up the brunt of our hunter education programs. Without them the job would be nearly impossible.

September 20—Our state pistol shoot was held today at the Scotia Range. I have been practicing on my own all summer and was harboring some fond hopes for this year's shoot, but they were soon shattered. This was the worst day I ever spent on the range. But others did better, and Bob Myers, Law Enforcement Assistant from the Northeast Division, shot a perfect score on the Practical Police Course.

September 27—I spent most of today attending a course on cardiopulmonary resuscitation, or CPR. This course teaches how to revive a person who has stopped breathing, and/or heart attack victims. Game Commission employees are required to undertake this training. Dave Sloan, one of our Land Management Assistants, provided the instruction. Dave received his training from the Red Cross and was certified to teach us.

September 29—All game protectors are responsible for the maintenance and repair of the various vehicles assigned to them. We must file an automotive report each month, listing daily mileage and associated costs ranging from oil and gas to parts and labor. Today I scheduled my Cherokee for some badly needed repairs. Later I managed to catch up with the radio repairman so that he could straighten out some problems with the Game Commission radio. Now at least my equipment is in shape for the upcoming hunting seasons.

Third Wild Turkey Stamp Available

The third in an annual series of stamps produced by the National Wild Turkey Federation is now available for purchase by sportsmen, other conservationists and stamp collectors. The 1978 stamp features a painting by Richard Amundsen of three Rio Grande wild turkeys.

These stamps are not required for hunting turkey, but are purchased voluntarily, with revenues used for education, wild turkey restoration, and the lease or purchase of habitat.

In addition to a limited edition of 50,000 stamps, a signed and numbered edition of prints of Amundsen's painting will be available through art dealers. The stamps themselves may be purchased for \$3.00 each from the National Wild Turkey Federation, Edgefield, S.C. 29824.

[T IS LATE in the month of September.

The grass bends under a dew that came very close to being a frost last night. The dew beads the grass, the green walnuts, the bird's-nest tops of the Queen Anne's lace, and the armored dusty wings of a grasshopper. The hopper clings to a fencepost. Barbs on the ends of its legs hook into cracks in the wood, and it moves not a muscle: it sits there like a barnacle on a dock piling.

When I tug at the hopper, its legs tick to the post. In my hand, it moves the tip of one antenna, retracts a leg—and that's about all. It doesn't even spit up the bubbly brown liquid we used to call chew tobacco when we were kids.

The tide is on its way out for the hopper.

I put it back on top of the fencepost. Maybe the sun will warm it up, or maybe a wandering bird will catch the lint of its thorax, set down, and nab it. Does it matter? The hopper is almost gone (give it another night or two, maybe a week if we don't get frost), gone with the rest of the fading insects.

Probably, though, it's been a success as a hopper, fulfilling its biological task of "ovipositing in the ground and overwintering in the egg stage" (in the words of my field guide). Simplicity itself: the hopper mates, lays eggs in the dirt, and dies, all on schedule and all without the faintest flicker of recognition.

If the insects are fading, the leaves of trees and shrubs have begun to radiate an autumn glow. Hickories—bark splitting off their trunks in long, curling tabs—are yellow as candle flame; squirrels work in their tops, cutting the nick-hulled nuts. The sumacs' compound leaves look like rows of mirrored teeth, some green and some rimmed bloodred; above the leaves, seed heads broke up like lavender fists. And on the mountain a few chestnut sprouts, short-lived offspring of a legion long since faded, show up in yellow patches.

I cross the field under a sky stark blue and windless. The alfalfa peters out at the foot of a low knoll where a dozen beehives squat under sumacs and hawthorns. No murmur comes

Thornapples



Chuck Fergus

from the colonies, and no workers can be seen at the entrance slots.

The bees will winter on honey stored during this month's nectar flow from goldenrod and asters clogging the fencerows and field corners. As days shorten, the worker bees will perform their annual housekeeping: they will unceremoniously throw the colony's drones out the front door. Drones are males which do no work and exist only to mate with the queen—a very low percentage accomplishing this task—and over winter they are extra baggage in a hive that runs on blind, efficient instinct. Later, when real cold begins to tighten on the land, the workers will group into a football-shaped cluster at the heart of the hive. And at the heart of this cluster—where the workers' body heat keeps the temperature a constant 65 degrees—will be the queen.

Above the hives, the hawthorns are gold, a hue similar to that of autumn cottonwoods along Rocky Mountain creeks, but more intense. The hawthorns' branches bear inch-long, curved thorns and bunches of apples bright as stop signs. I pick up an apple, cut it open with my knife; inside are three triangular, ridged seeds and a slender white worm that heaves up its head to see what has intruded on its short life.

I open four more apples, each unblemished, and find four more larvae.



Their tunnels twist around the seed. On the tree are at least a hundred apples, and I have no reason to doubt that a worm lies at the heart of each.

Each worm takes a shot at life: those hundred or so thornapples, some will be picked up by pheasants, others nibbled on by rabbits and deer, more than a few washed into the run by rain. (Five, of course, have already been opened by an inquisitive—some might say meddling—amateur naturalist.) But some of the apples will go unnoticed in the grass. At their hearts the worms will wait out winter, and when the land awakens next April they will emerge metamorphosed—mindlessly single-minded in their drive to mate and lay eggs in next year's thornapples.

Ephemeral as life itself, most adult insects live from a few days to a few weeks. Many push into the world without mouths or digestive tracts.

I drop the thornapples in the yellowing grass and walk the fencerow back to the house. In the trees, scores of butterflies fan their wings. Monarchs, on their migration. The way south is long for them, and attrition high: all along the highway berms, orange wings and broken black bodies lie washed into windrows by rain. Monarchs that reach their wintering grounds, up to 150 miles away, go into semi-hibernation until spring. Then most of them breed, lay eggs, set out on the route north, and die—their offspring eventually completing the return flight for them.

The Last Week

It is the last week of September.

A day of fickle mountain weather with clouds marching in, shutting out the sun, receding, almost vanishing and finally racing back to cast a dusky shadow on the land. The wind picks up, dies, and whips through the still-green leaves of rock oaks. The only constant is the edge to the wind.

I am riding with Dave Putnam along a dirt road in a forested sector of Mifflin County. Dave assists a Game Commission biologist on a turkey project and we are riding his bait lines, putting out buckwheat feed and checking for turkey sign. Dave is in his late twenties, with black hair, a quick smile, and

a infectious, energetic manner. I admire his competence with winches, factors, turkey calls, and chain saws.

Dave explains that turkeys—opportunists like most of us—congregate near his bait sites. By reconnoitering their scratchings, droppings, and the amount of grain they've eaten, he can get a handle on the size and age distribution of the local population.

Dave eases the car along parallel ruts through knee-high blueberry bushes. We pass a hunting camp and come even with a wire feeder. The feeder, designed to dispense corn to deer and turkeys over winter, looks like a dilapidated ferris wheel; its radial spokes are rusty, its stand is broken, and it leans hard to one side.

The car grinds to a stop, and Dave gets out. "Look," he says softly.

A bird is trapped in the feeder. It presses against the wire, falls back, and presses again.

Dave slips up to the wheel. Its door, through which the bird must have entered, hangs on a hinge, and moldy corn covers the bottom. The bird is a thrush. At my approach, it flops once more into the wire. Dave puts his arm in the door and stretches, but he can't quite reach the bird. Squeezing both shoulders through, he extends his hands and lunges. The thrush gives a little squawk as he catches it. He backs out of the feeder.

The thrush stabs at Dave's fingers with its bill. Its plumage is a subdued but intricate play of olives, browns, and grays; the skin around its eyes is bare and blood-flecked. When Dave passes it to me, I feel a hot, trip-hammering silence.

Released, the thrush flits into the shadows.

We get back into the car and continue along the bait line. Dave is marking that most of the thrushes we've already left the area, some having departed south as early as August. Alert now to birds, we see towhees, white-throated sparrows, and a host of wood thrushes in autumn plumage dull as the park uniforms that line the racks of discount department stores.

As we round a bend, Dave stops. Ahead, a grouse stands in the middle of

the road. It ducks its head and takes a few quick steps. From the undercover, a second bird emerges: a cock grouse.

The cock's tail is fanned, his crest is erect, and his shoulder ruffs stand up like black carnations. He struts past the first bird (presumably a hen) and, after giving our car a haughty once-over, disappears into the brush. The hen vanishes on the other side. The road is bare.

"Autumn recrudescence," Dave says. He tells me how the lowering temperatures and shortening days have duplicated spring conditions. This triggers something in birds' brains—and the crazy things start feeling their oats. Pheasants crow, turkeys gobble, songbirds sing, mockingbirds set up unholy midnight rackets. And grouse, normally sensible creatures, strut and drum.

The Last Day

It is the last day of September.

I've just finished telling the story of the strutting grouse to fellow grouse hunter and friend, Carl Schwartz. Carl is sitting on the hearth in his living room; he calls his pointer over and runs a hand along the big dog's muscle-etched flank.

"I think grouse are up this year," he says.

I nod. "I've seen more birds than you could shake a stick at."

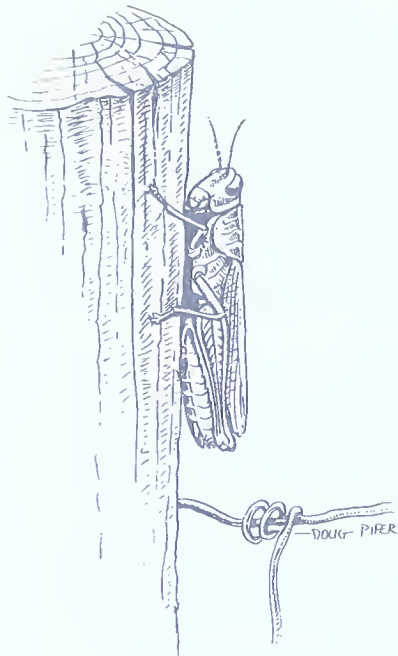
"Everybody's seeing birds."

"Yeah. Everybody."

The dog whines sympathetically, and shivers seize its brown-and-white chest.

The early grouse season is a scant two weeks away, and Carl and I have been talking hunting for close to two hours. We are doing what hunters do every year, until they make it to the top of a certain hill and then begin to look back over the way they've come: we are building, in our minds, a new season that will be full and bountiful and better than all other seasons passed.

Outside, the year is fading. The animals have left, or are leaving, or are digging in against the winnowing to come. The insects, which I have the temerity to call mindless, are returning to the soil in one way or another. The



trees are giving off that quick burst of flame before settling into ashen, bare-branched abeyance.

Carl and I are talking grouse hunting. Talking dogs and shot size and guns, trading stories about days we've

been skunked and days we've come home with weight in the game pouches. We are stirring the ashes of fall. We're telling each other—in the subdued, shared way we have because we hunt together—that we sense meaning behind all this fading, that we have a place and maybe even a role in it.

It matters little that we will see no birds on opening day. That during the first week grouse will thunder away unseen behind orange and yellow leaves. That we will tear ourselves on thorns and sweat miserably and miss and not really hit stride until the season is weeks old.

Carl ruffles the fur behind the dog's ears. He smiles a little and shakes his head. "I can just see him strutting across the road."

I believe him. Because I can see the grouse, too, and the shell of a hopper on the fencepost, and a thrush winging its way across the width of the Carib bean, and, as far off and indistinct as the second ridge on a foggy morning—reason why all of these things are coming to pass.

Available Publications

The following publications are available from the Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120. Prices quoted include taxes, handling and postage.

GONE FOR THE DAY, by Ned Smith. All of the outstanding columns and artwork which appeared under this title in *GAME NEWS* during a four-year period. Delightful reading for everyone. 216 pp., \$2.50.

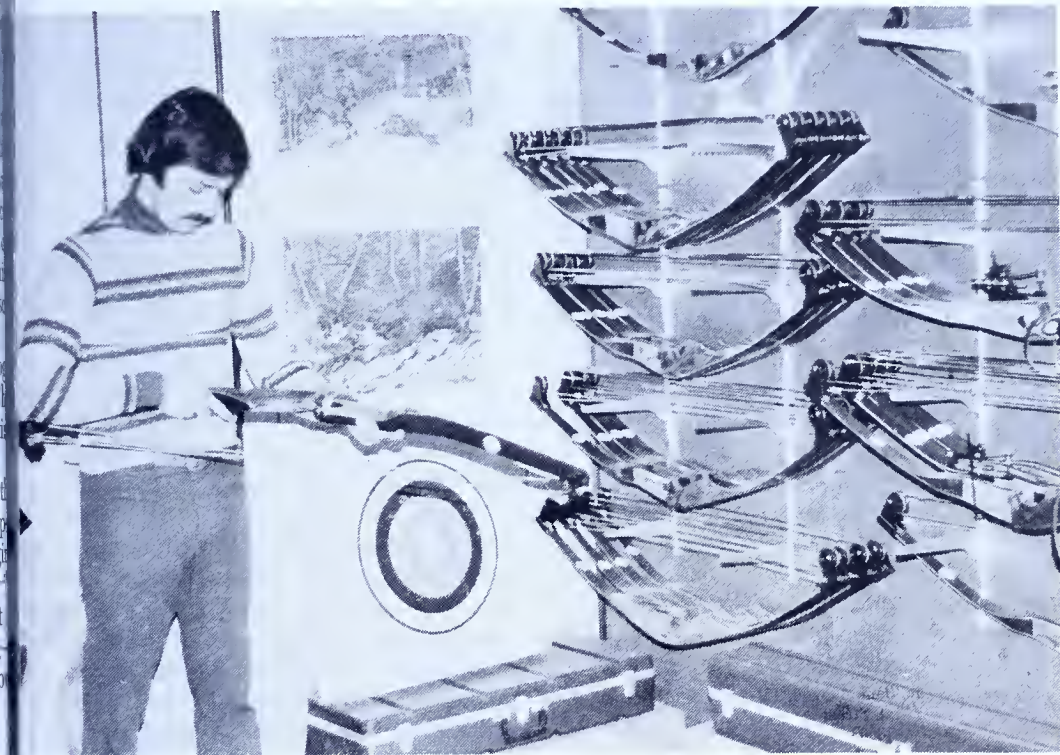
PENNSYLVANIA BIRDLIFE by Leo Luttringer. All about Pennsylvania's birds—what makes them tick, where to find them, how to identify them, what to feed them, how to conserve them. Color charts. 128 pp., \$2.00.

PENNSYLVANIA TRAPPING AND PREDATOR CONTROL METHODS, by Paul Failor, gives detailed information on all phases of these activities—sets, baits, etc. 96 pp., \$1.

GAME NEWS BINDERS, black vinyl with gold lettering. Will hold 12 issues, keep them neat and clean. Excellent as gifts. \$2.50.

visit with Pennsylvania's . . .

Bow Builders



"CHAMP" CRAVOTTA, president of Black Hawk Archery Co., makes a final check on the finished compound bows before they are shipped.

By Keith C. Schuyler

Photos from the Author

PERHAPS IT'S UNUSUAL that Pennsylvania, a leading archery state, has but one major manufacturer of bows and arrows. However, Cravotta Brothers Black Hawk Archery on Third Street in East McKeesport is truly representative of the great surge in archery activities that erupted after World War II. It is a company somewhat bound to, but not hampered by, tradition.

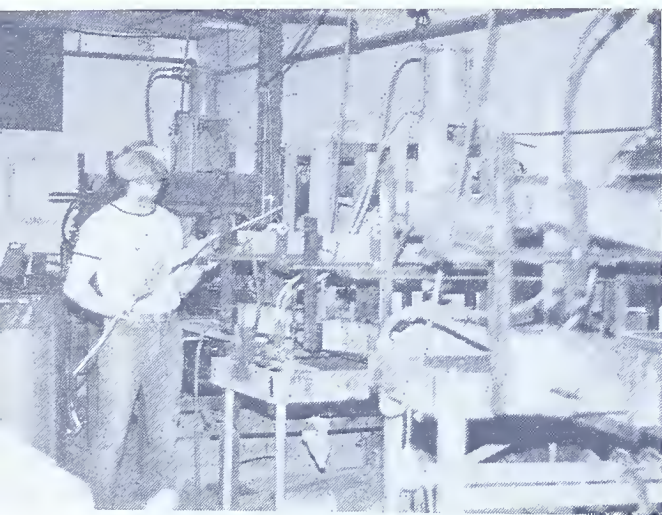
An invitation from the Cravotta brothers to visit their factory fulfilled a long-time personal intention. Not only did the company earn a special spot in modern archery development, but the history also provides an interesting insight.

One of the founders of the company,

James J. Cravotta, was sole owner when he died. But three Cravotta brothers had conceived and started the business together in 1951. Like many such businesses, it was a home basement operation at first for Jim and his brother, Cosimo. Gradually the hobby developed into a business and they formed a partnership with another brother, Dr. Charles Cravotta. Operating as Cravotta Brothers, the men built the business from a gross of \$35,000 during the first year to about \$800,000 by 1958.

Meanwhile, the business was incorporated under the name Cravotta Brothers, Inc.

Cosimo, a builder, had become interested in archery shortly after World



BOB DURST, left, inspects laminations bow blank just removed from gluing machine. Right, Helen Banky and Doris Laffey work at arrow fletching machines. Far right aluminum tubing inventory is checked. tremendous amount of this material necessary as arrows are shipped all over country.

War II, and he began to "fool around with things in the basement of his home." Arrows came first. Cosimo talked Jim into going hunting, and Jim really took to the "new" sport. But the brothers found it was tough to buy any archery equipment. They had to place orders six to eight months ahead of time, and the only bows available locally were all metal. So Jim and his brother turned their lumberyard into a full-time factory in February, 1951.

Nine years later, disaster struck. The entire factory was consumed by flames.

Cosimo became discouraged and sold his share in the business to Jim. The fire's cause was never determined, but at the time, they'd been experimenting in the manufacture of water and snow skis, and it was suspected that a short in some of the new equipment might have been responsible. Within a year of the fire, the factory was completely rebuilt to even better accommodate the manufacture of archery tackle.

Manufacture of skis had been an attempt to take up the slack during slow months in archery manufacture. However, Japanese imports finally made this line unprofitable. Nevertheless, Cravotta Brothers was back in business in 1961 and has continued to the present.

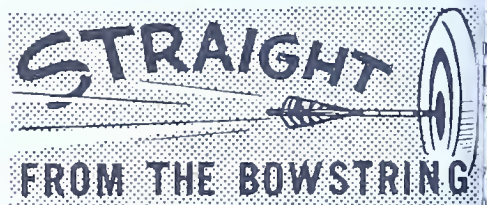
Initially employment was around 25 people. This went to a high of 75, and present plans are pointed toward this figure again.

As the business grew so did Jim's family. When he died in 1969, at 62,

three sons were in the wings waiting step into the act. Meanwhile, the mother Mary Ellen held the business together.

Oldest of the three sons was James Jr., who was just 21. Better known "Champ," Jim was a student at Pittsburgh University where he studied engineering and economics. Charles Michael, who answers best to "Chuck" was born in 1950; he entered accounting night school for a time before joining the family business. The youngest Cosimo, was only 16 when his father died, and he went to drafting school a time after high school graduation before coming with the company. Though named after his Uncle Cosimo, he was called "Lucky" almost from birth.

So now it was Cravotta Brothers once again, albeit a second generation. Mary Cravotta has continued as secretary and treasurer of the organization. Jim, by reason of seniority, is the president. Chuck is vice president in charge of sales, and Lucky is second vice president. The latter's activities are a bit less defined because he is the most expert archer of the three and frequently demonstrates the company's





ares. He also conducts the company ro shop, a part of the manufacturing complex.

John Kubicko joined them early in 1978 as sales manager.

The bulk of sales are in one-unit bows. These are pressed and turned out from a distinctive pattern, but each operation is accomplished by hand. Consequently, although each style conforms to a definite pattern, no two of the traditional line of wood bows are exactly alike. An unusual one-year guarantee against any defect goes with each bow.

Handmade Compound

When I asked what makes the Black Hawk line of Cravotta bows distinctive, they replied, "It's still one of the few compound bows that is handmade like the conventional wooden bow always was. . . . We try to stick with walnut, oak, and maple, the traditional woods of this country."

When compound bows first gained a following in the early 1970s, the Black Hawk line was expanded for this new development. However, the bows continued to carry the same type of wood laminations with fiberglass backing that had proven successful with conventional recurve bows. With a primary accent on hunting bows, Black Hawk compounds have been "two-wheelers."

One of the latest developments, which is gaining fast acceptance, is a miniature compound designed for

youngsters. Known as the Outlaw, the little bow has all the characteristics of the regular compound but is only 34 inches from axle to axle. It uses a 24-inch string. Draw length is from 20 to 24 inches.

Although the accent continues on hunting tackle, a line of compound target bows incorporating magnesium handles was in the works at the time of my visit. The demand for target bows is minuscule compared to hunting models, but because most target archers are also hunters in turn, the brothers feel increased visibility of the Black Hawk line at tournaments will be important.

As with many archery manufacturers, the Cravotta brothers find they are busiest in August and September at the beginning of hunting seasons. Despite the Cravottas' efforts to build up advance sales, dealers tend to hold off ordering until they are relatively sure of the current market. This imposes a hardship on all archery manufacturers, who find it difficult to judge the amount of tackle to stockpile.

In an attempt to fill in the slow months from November through February, the brothers developed a plastic snow sled which has attracted considerable attention. The almost indestructible sleds are guided by the rider's weight shifts during use.



MARY ELLEN CRAVOTTA, widow of a founder of Black Hawk Archery, is active in the organization as secretary-treasurer. Company's equipment is used by countless bow hunters and competitors.

Another new development in the archery line is an economy line compound, the Woodsman, with solid glass limbs. Although solid glass did not go over well in the recurve line, this one appears to have considerable potential as a starter bow for those just getting into the game.

Top of the line, and the most popular of Black Hawks, is the new Chief Scout. This bow weighs but 2 lb., 9 oz. and is 44 inches from axle to axle, with an overall length of 47¼ inches. It takes a 30-inch string. Standard draw length is 27–30 inches. The handle is built of laminated hard woods and the limbs of fiberglass and rock maple laminations. As with all Black Hawk compounds, this one relaxes about 50 percent at full draw.

A departure from the popular laminated wood line of bows is the Jupiter, a compound with a riser section of cast aluminum alloy. Of course, the company still manufactures the old line of recurve bows including the Short Bee, Avenger and Firebolt. Compounds now make up about 90 percent of production. It is John Kubicko's belief that this percentage will remain fairly constant. Sales to Europe claim a share of the recurves since target shooting under international regulations is foremost in foreign countries. Kubicko believes that the compound eventually will be accepted

even for international target shooting.

Although the manufacture of bows is by far the first order of business at Black Hawk, and components are almost all made at the factory, with accessories the story is somewhat reversed.

Only a few accessories are manufactured under the Black Hawk name, but the company provides a full line of target and hunting needs. Some of the in-plant manufacture is devoted to fis reels, a tapering tool, a feather burner and a string server. At one time broadhead was manufactured at the Black Hawk factory, but hardening problems discouraged any further ventures in this direction.

Full Line of Arrows

Aside from bows, arrows are the biggest item in the approximately \$1 million in sales each year. Black Hawk offers a full line of arrows from cedar shafts to fiberglass, aluminum, stainless steel and graphite. The more conventional materials—wood, fiberglass and aluminum—make up the bulk of sales. Steel has been slow to win acceptance and the considerably higher price of graphite impedes popular appeal. The Cravotta brothers believe that graphite will eventually win a much larger share of the market as the cost comes down. Graphite's qualities make it an ideal material, particularly for hunting arrows. Only a direct hit against something extremely hard, such as rock, will damage graphite shafts.

A solid glass arrow for fish shooting was a 1978 development by Black Hawk. As with all their other arrows, the company purchases the raw shaft and builds the arrows for whatever purpose is intended.

Bows and arrows for hunting are the main emphasis at Black Hawk Archery Company, but the owners support any endeavor they believe will enhance any outdoor activity. Among the organizations to which the company provides support are the Pennsylvania Outdoor Writers Association, Ducks Unlimited and the Pennsylvania Grouse Association. It is one way the Cravotta brothers say "Thank you" to the sportsmen who support their business.

The KE Killing Power Myth

By Don Lewis

Photos by Helen Lewis

THE DOE PAUSED long enough for my scope's Dual-X reticle to settle a few inches behind the shoulder. I squeezed the Ruger's trigger, sending a 75-grain Grand Slam slug through what I hoped was a tunnel in the heavy underbrush. The big Speer bullet had a muzzle velocity of 2406 fps in the .375mm case and was highly accurate. I had a whale of a deer load.

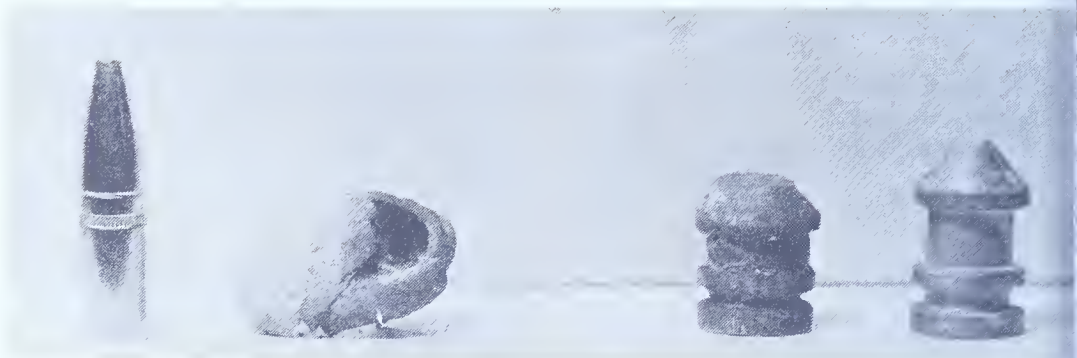
The shot had been a hurried one, but I was convinced my hold had been steady and my trigger squeeze smooth. Nevertheless, the shadowy form of the disappearing deer made me wonder if I had missed a standing 85-yard shot. The trail showed signs I had connected, but I went a hundred yards before I found the deer. The long bullet had gone through the lungs, leaving a gap in the exit hole, and from all appearances the kill should have been instantaneous. If I hadn't known something about ballistics, I could have vowed to next year's hunting with a Magnum that would always "drop 'em in their tracks."

There are a couple of reasons many hunters feel this way. The name has nothing to do with it. "Magnum" sounds powerful. Also, the ballistic tables indicate that as a class Magnums are more powerful (thus better killers) in standard loads. But if you study these tables you'll see that in almost all cases, Magnums use the same bullet diameters and weights as standard bullets (for example, the 180-gr. bullet is the same in both 30-06 and 300 Winchester Magnum). The only significant difference is that the Magnum shoots it out at higher muzzle velocity. Since kinetic energy figures such as those given in ballistic tables are derived from the formula $KE = \frac{1}{2}MV^2$ (where KE is kinetic energy, M is mass and V is velocity), any boost in velocity creates a notable increase in energy because this figure is squared.



ULTIMATE TEST of killing power comes on game in the woods, but hunters like to have some idea of what they can expect from a given cartridge before using it on an animal. There are several ways of calculating it—none perfect.

However, many experienced hunters deny that kinetic energy figures accurately reflect killing power, or that killing power is the same as stopping power. My shooting pal, Ken Mollohan from Freeport, declares a spoonful of arsenic will kill the toughest fellow who ever walked, but he will go a long way before it does. Here, killing power is 100 percent, but it's obvious there is no stopping power. On the other hand, a brick wall is totally effective for stopping, but would have little or no killing



DIFFERENCES IN EXPANSION QUALITIES of 220-gr. 8mm Remington Magnum bullet, 400-gr. Maxi Ball, fired at 70 yards. Recovered 8mm bullet weighed 171 gr., Maxi Ball 398 gr. Note that Maxi Ball showed almost no expansion.

power unless it fell on you. The separation of killing power and stopping power is not nearly as sharp in firearms, but it still exists.

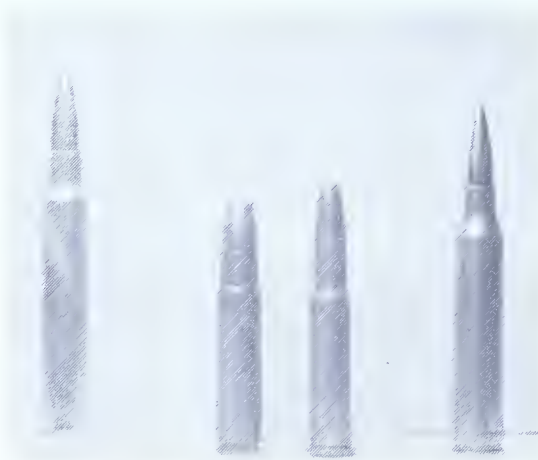
When we bank all our hopes on muzzle energy as the sole guide for selecting a whitetail cartridge, we can be fooled quicker than a weasel can grab a sick mouse. Consider the old 220 Swift, which is notorious for creating surface wounds on big game animals. Kinetic energy of the Swift is almost identical to that of the 30-30 (1877 foot pounds for the 50-grain 224 bullet with a muzzle velocity of 4111 fps vs. 1860 fp for the 170-grain 30-30 which leaves the muzzle at 2220 fps). Yet under most conditions the 30-30 is a better big game load than the Swift. (Admittedly, on

broadside shots where the bullet goes through the ribs and into the lungs, the Swift's light, highly frangible bullet can kill like a grenade. But you can't count on such placement and result. Where reasonable penetration is required, on shoulder muscles and bones, the high-speed 22s are not dependable. However, the gun buyer who considers only the muzzle energy figures he sees in ballistic tables may think there's no difference in the efficiency of these two cartridges on big game.

Stopping power has always been uppermost in the minds of cartridge designers. But strange as it may be, the subject is still not completely understood even after all the years of testing and observation. We do know that bullet shape and construction are highly important. But two other factors rarely mentioned in print are, in my opinion, of equal importance when it comes to stopping power: bullet momentum and bullet diameter.

Momentum is not often discussed by today's hunters, though there was a time when it had considerable vogue. Experienced hunters noted that the formula for momentum (mass times velocity) seemed to rate the effectiveness of big game loads better than kinetic energy figures did; that is, calculations based on momentum agreed better than KE figures with the observed results of different loads used on thousands of head of big game.

Notice that in the momentum formula both mass (the weight of the bullet in pounds) and velocity are dealt with directly, whereas in the KE formula



OLD BRUSHBUSTING favorites, the 35 Remington and 30-30 Winchester, are flanked by two relatively new cartridges intended primarily for very large game at longer ranges, the 8mm and 7mm Remington Magnums. Magnums extend killing effectiveness to extreme distances.

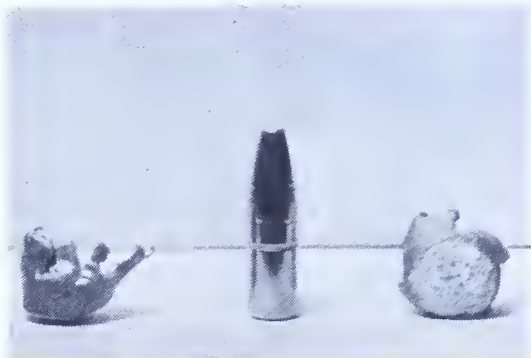
la, velocity is squared; thus the momentum approach puts more value on bullet weight and less on velocity. The difference between the formulas for kinetic energy and momentum is the difference between the 220 Swift and the 300 on deer.

We've seen how the KE ratings of these two loads are almost identical. Let's look at a comparison based on the momentum formula. First we convert bullet weight, normally given in grains, to pounds. To do this, we divide by 7000. The 170-grain 30-30 bullet weighs .024 pounds. This multiplied by velocity of 2220 fps gives a figure of 53.9. Running the same procedure on the 150-grain 220 Swift load gives 29.4. It's easy to see why the 30-30 outshines the 220 Swift in the big game realm.*

Another Illustration

Another illustration to support the momentum theory pertains to the 6mm's vs. the Savage 250-3000. The advent of the modern 6mm's in the mid 1970s sent several 25-caliber centers to the showers. For awhile, it looked like the 25s were gone forever, but died hard. The 250-3000 fans claimed they were just as well equipped for deer as those using the dynamic 6mm cartridges. Surprisingly, many converts to the 6mm's later admitted they hadn't found a great deal of difference between the two cartridges. Here's a possible explanation. A 100-grain 6mm (243) bullet traveling at 3190 fps figures out to a momentum value of 45.6. A 120-grain loaded slug from the 250 Savage traveling at 2645 fps reads out at 45.3. There

The momentum formula, as given in this graph, is the one commonly used by big game hunters interested in expressing killing power in numerical form: they often use the terms "pounds-feet" or "potence" to refer to answers. The complete mathematical formula for momentum also involves division by the figure for acceleration due to gravity (32fps/s) giving an answer in "slugs," the traditional unit of mass in the fps system to which a pound force can impart an acceleration of one fps per second. The hunters' system is easier to calculate, and since it only eliminates multiplying by a constant figure, it does not change results as they relate to each other.



UNIFORM EXPANSION is shown by two 180-gr. Speer Mag Tips. Bullets penetrated almost a foot in 60/40 sand and sawdust mixture with impact velocity of 2700 fps. Recovered weights: 112 and 113 gr.

is no perceptible difference in momentum values between the two bullets.

It's fairly well known that the greater the velocity of a given bullet, the more rapidly it is slowed by air resistance. In other words, the faster its muzzle velocity, the more rapidly it gives up its force to the surrounding fluid medium. I might point out here that fluid medium is anything that takes on the shape of its surroundings, such as water or air. It's less well known that the same thing holds true when the bullet makes contact with a big game animal. And the faster it slows down, the faster it sheds energy. A high velocity, lightweight bullet delivers more of its energy immediately after impact than a slow heavy bullet. The slower, heavier bullet expends more of its energy deeper in the target.

Increase in Diameter

Except for full metal patch bullets that do not expand appreciably, the transfer of energy is accompanied by an increase in diameter that we call expansion. It's impossible to predict exactly how much a given bullet will expand. There are too many variables. For a rule of thumb, we can say a properly constructed bullet, used at its intended velocity, will expand roughly two times its original diameter. The more a bullet expands uniformly, the more effectively it transmits energy. Since the expanded diameter of most bullets will be proportional to the initial diameter,

the larger diameter bullet will give off energy to greater effect than bullets of smaller diameter.

I'm acutely aware there is no way of accurately predicting how a bullet will react when it hits a big game animal, but I'm safe in stating the desire of the bullet manufacturer is to have the bullet expand properly without breaking up. Expansion plays a major role simply because any increase in bullet diameter means a larger frontal area (bullet nose) to disrupt body tissue and transmit energy.

Lower velocities permit the use of heavier bullets with acceptable recoil. Many hunters prefer the heavier bullets because more energy will be de-

BULLETS FOR varmints such as this big chuck should expand violently on impact. However, big game loads need more penetration through heavier muscles and bones to get consistently reliable results. Choosing proper bullet can require study of many variables.



livered farther into the animal. This can be overdone, too. Using heavy bullets at velocities so low there is little chance for expansion and shock is certainly the wrong approach. Velocity and bullet construction largely determine how much expansion occurs, and the hunter wants the energy transfer to take place in the animal and not in some tree on the hillside after the bullet has passed through the target.

Lightweight, high-velocity varmint type bullets tend to expand too rapidly and waste much of their energy on the surface when used on big game. But there is a happy medium. The whitetail hunter can get adequate stopping power by going to large diameter, high momentum bullets. Something in the class of the 35 Remington with a 200-grain slug is one of several suggestions. This large-caliber bullet erupts from the muzzle at 2210 fps has a momentum value of 63.1. This is roughly 85 percent of the momentum generated by the 150-grain bullet coming from the powerful 300 Winchester Magnum. The larger diameter of the 35's slug is another plus for the hunter.

Good at Short Range

Such a comparison holds up only at short range, of course. At 300 yards, for example, the 300 Winchester Magnum is far superior to the 35 Remington, momentum factors being 52 and 33 in favor of the Big 30. But for short range woods hunting, the conditions under which most Pennsylvania deer are taken, the older large-bore outfits are still effective.

I happen to think the kinetic muzzle energy myth is a bit overworked. It's important, certainly, but should not be the sole criterion for selecting a big game cartridge.

Kinetic Energy and Momentum Value Chart of Selected Cartridges

Cartridge	Bullet Weight	Velocity	At Muzzle		At 200 Yards		
	Grs.	FPS	Energy FP	Momentum Value	Velocity FPS	Energy FP	Momentum Value
Swift	50	4111	1877	29.3	3133	1090	22.4
Remington	100	3190	2260	45.6	2660	1570	38.0
3000 Savage	100	2820	1760	40.3	2140	1020	30.6
Winchester	130	3140	2840	58.3	2630	2000	48.8
7 Mauser	175	2490	2410	62.2	1900	1400	47.5
Remington	165	2820	2910	68.6	2220	1810	52.3
Winchester	150	2900	2800	62.1	2380	1890	51.0
30 Winchester	170	2220	1860	53.9	1630	1000	39.6
06	150	2970	2930	63.6	2400	1920	51.4
06	180	2700	2910	69.4	2250	2020	57.9
7 Mauser	170	2570	2490	60.5	1790	1210	43.5
Remington	200	2100	1950	63.1	1390	860	39.7
70	405	1320	1570	76.3	1050	990	60.7
300s							
Winchester	140	3200	3180	64.0	2700	2270	54.0
Remington	150	3260	3540	69.8	2700	2430	57.9
Remington	175	3070	3660	76.8	2660	2740	66.5
Winchester	150	3400	3850	72.8	2730	2480	58.5
Winchester	180	3070	3770	78.9	2640	2790	67.9
Winchester	220	2720	3620	85.5	2270	2520	71.3
Remington	185	3080	3896	81.4	2464	2494	65.1
Remington	220	2830	3912	88.9	2346	2688	73.7
Winchester	250	2700	4050	96.4	2180	2640	77.9
Winchester	510	2130	5140	155.2	1600	2900	116.6

Books in Brief...

(Order from publisher, not from Game Commission)

Death in the Long Grass, by Peter Hathaway Capstick, St. Martin's Press, 175 5th Ave., NYC 10010, 297 pp., \$10. The most readable hunting book to come along in years. Capstick, a New Jersey-born stockbroker who deserted Wall Street to become a professional African white hunter and control-shooter, has the knack—and the subject matter, culled from a dozen years in the bush—to keep you turning pages until you've devoured this book whole . . . which is what the critters here tended to do with the people. Successive sections Capstick tells how lions, elephants, leopards, Cape buffalo, hippos, crocodiles, rhinos, snakes, and assorted other less well known killers show their dish for Homo sapiens. Anyone who has dreamed of taking an African safari will have fond thoughts after finishing this book.

The Big Wilderness Canoe Manual, by Bob Cary, David McKay Co., 750 3rd Ave., NYC 10017, 183 pp., \$9.95 hardbound, \$6.95 paperbound. A highly practical book by a professional guide/outfitter who has spent a half-century in canoe country. Tells how to select and customize a canoe, how to pack, paddle and portage it, how to read a map, choose the proper clothing and equipment, chart wilderness courses, and do numerous other things to make life comfortable along the water trails.

Now in Paperback...

North American Big Game Hunting, by Byron W. Dalrymple; **The Hunting Rifle**, by Jack O'Connor; **The Complete Book of Practical Handloading**, by John Wootters; **The Accurate Rifle**, by Warren Page. Each of the preceding books is \$5.95, from Stoeger Publishing Co., 55 Ruta Court, South Hackensack, N.J. 07606. **Bow Hunting for Big Game**, by Keith Schuyler, \$5.95, Stackpole Books, Cameron and Kelker Streets, Harrisburg, Pa. 17105. **Hunting the Long-Tailed Bird**, by Bob Bell, \$6.95, Hawthorne Press, 260 Madison Ave, NYC 10016.

In the wind

toni williams

information writer



It's not surprising that some of President Carter's attempts to reduce federal spending are unpopular. The National Wildlife Federation recently filed a suit against a 25 percent cut in the budget requested by the U.S. Forest Service. NWF foresees serious problems in areas such as wildlife habitat management, range-land management, and reforestation, which suffered the biggest cuts. The President is required by law to explain whether the budget would allow the Forest Service to carry out policies already set by Congress. This wasn't done when the cuts were announced.

Nine humane and animal-protection groups claimed that a joint federal-state study of coyote predation on deer in Utah was ecologically destructive and of little scientific value. The clincher, however, was that the study apparently had not met all the qualifications of the National Environmental Policy Act (which requires environmental impact statements for substantial federal projects). The groups prepared a lawsuit but negotiations led to the dropping of the study and therefore the suit.

If it survives the summer, New York's first naturally-fledged wild bald eagle in recent years will be soaring over the state this fall. Some young birds have been placed in nests and fed by humans hidden from their view. But this eaglet, hatched in captivity, was traded for an egg (not expected to hatch) laid by New York's last reproductively active eagle pair. Both foster parents at last report were feeding the young bird, a good sign.

The goal of endangered species work is to strengthen those species to the point where we can take them off the List and remove protection. It happened last year for the American alligator. And it looks like this might be the year of the gray whale. The population of gray whales is approaching 15,000, about the size it was in the mid-19th century, before the most severe depletion by market hunting. And minke whales were counted recently more than were expected.

The Environmental Protection Agency has announced that the weed-killer 2,4,5-T is being presumed to be unacceptable for registration. Users and producers must rebut the presumption, but will have to show evidence it's safe. The compound got a bad name in Vietnam, where it was popularly linked with birth defects and cancer. One of its byproducts is said by the National Wildlife Federation to be "one of the most toxic chemicals known." The defoliant has such uses as keeping power line rights-of-way clear.

Indians appear to be facing a "Silent Spring" but for more complicated reasons than Rachel Carson depicted. India exports lots of frog legs, which means lots of frogs die to grace our tables. In fact, the death rate seems to outweigh the birth rate these days, which means there are fewer frogs around. That means there are fewer frogs eating insects. More insects means fewer crops—or more pesticides. More pesticides means more pollution. More pollution means India's spring is becoming more silent.

An important principle was put into practice with the recent addition of 48,000 acres to the Redwood National Park in California. Though much of the area has been heavily logged over, it's important to the park because it's part of the watershed and over-enthusiastic logging there was causing erosion and siltation which threatened trees well within the existing park. Now the park is a fairly complete ecological unit with real protection for the majestic trees. Logging companies and loggers will be compensated for the loss of lands, and the cutover lands rehabilitated.

IT'S THE LAW



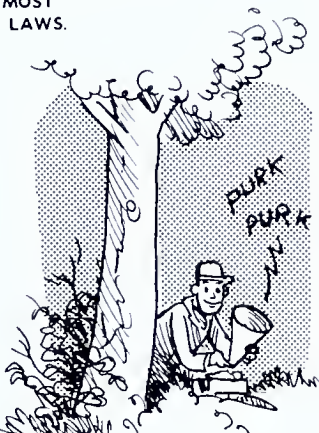
NOT ALL GAME LAW VIOLATIONS ARE INTENTIONAL. AS A SERVICE TO COMMONWEALTH SPORTSMEN, GAME NEWS, IN COOPERATION WITH THE DIVISION OF LAW ENFORCEMENT, TAKES THIS MEANS TO BRIEFLY CLARIFY SOME OF THE MOST FREQUENTLY MISUNDERSTOOD OR LEAST KNOWN GAME LAWS.

QUESTION —

IS IT LEGAL TO USE AN ELECTRONIC CALLER FOR WILD TURKEYS?

ANSWER —

NO, ONLY HAND OR MOUTH CALLS ARE PERMITTED.



QUESTION —

MAY I TRAIN MY DOG ON SUNDAYS?

ANSWER —

YES, DURING THE REGULAR TRAINING SEASON, PROVIDED YOU HAVE THE CONSENT OF THE LANDOWNER.

SCRAM



N. A. Rosato



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COVER PAINTING BY NED SMITH

Falco peregrinus, the peregrine falcon: we see it as proud, noble, regal—perhaps because of its appearance, perhaps because of its involvement in "the sport of kings." It should be beyond the problems of mere mortals. This fierce, proud form hurtling down meteor-like to its rendezvous with feathered prey—how can this creature have succumbed to so pedestrian a fate as squashed eggshells resulting from a chemical meant to kill bugs? Read Ned Smith's narrative of the peregrine's fall—and its on-again, off-again return—starting on page 2.

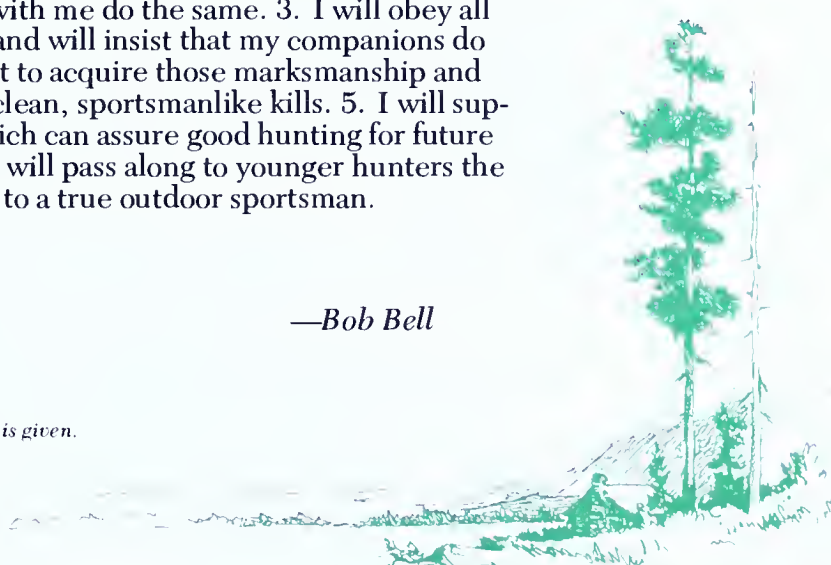
To Shoot Or Not To Shoot . . .

EVERY HUNTER HAS A code of ethics. You have one, I have one, all our friends have one. We might not be aware of it. Perhaps we never thought about it and probably no one ever told us we should have one, nevertheless we do. And each one is unique, for each of us is one of a kind. Except for identical twins, we all have a genetic inheritance that is ours alone, and we all—even identical twins—have a set of personal experiences which is unduplicated. Thus in some ways our feelings, beliefs, actions and reactions are bound to be different from everyone else's. The difference might be so small it seems nonexistent, yet there are times when it makes all the difference in the world because it affects what we do. It can make the difference, say, between whether we shoot or do not shoot an unsuspecting grouse on the ground. Some people get highly philosophical about such things and believe any choice we make depends completely upon the millions of choices we have made in the past; others believe each is a matter of free will at the moment of decision. Regardless, each has some effect upon us as individuals, and insofar as hunting goes, the sum total at a given time constitutes our personal code of ethics. To paraphrase Ol' Will's melancholy Dane, we could say, "To shoot or not to shoot, that is the hunter's question." And what the individual hunter does has vital importance in what others—friends, non-hunters, anti-hunters—think about the sport itself. Since we've edged into the literary area, we might quote John Ruskin, who wrote: "What we think, or what we know, or what we believe, is in the end of little consequence. The only thing of consequence is what we do." That's highly pertinent to hunters, for no matter what we say or believe about our sport, the only way others judge us is by our actions. A lot of people have been concerned about this for a lot of time, and on the assumption that we do have free choice in such matters, have laid down some guidelines to help us present an admirable image. The National Rifle Association has been involved in this matter for years and has developed the following code. It deserves our interest and support.

NRA Hunter's Code of Ethics

1. I will consider myself an invited guest of the landowner, seeking his permission, and so conducting myself that I may be welcome in the future.
2. I will obey the rules of safe gun handling and will courteously but firmly insist that others who hunt with me do the same.
3. I will obey all game laws and regulations, and will insist that my companions do likewise.
4. I will do my best to acquire those marksmanship and hunting skills which assure clean, sportsmanlike kills.
5. I will support conservation efforts which can assure good hunting for future generations of America.
6. I will pass along to younger hunters the attitudes and skills essential to a true outdoor sportsman.

—Bob Bell





New Hope For Peregrines

By NED SMITH

THE PEREGRINE FALCON, one of the most spectacular raptors in the world, has been all but exterminated in the United States by Man's shortsightedness. Now Man is re-entering the scene, this time in an unprecedented effort to restore the "noble peregrine" to its former haunts. Luckily for Pennsylvanians, the Keystone State has been included in this program. It is too early to predict the outcome but winning this difficult battle would be a major victory, not only for the bird itself but also for all who thrill at the sight of an untamed hawk in the sky.

Comparatively few people have even a passing acquaintance with the peregrine. It is perhaps best known from ancient paintings and tapestries as the hunting hawk of medieval noblemen, resplendent in plumed hood, bells, jesses, and other trappings of the sport. Older outdoorsmen may remember it as the "duck hawk" which used to nest on cliffs and steep mountainsides along major rivers. Visitors to Hawk Mountain, Bake Oven Knob, Wagner's Gap, and other hawk-watching spots know it as a rare migrant speeding through the lookouts during the autumn months.

Before World War II, hundreds of pairs of peregrines nested in the lower forty-eight states. Though not abundant anywhere, Pennsylvania had its fair share. Nesting sites called "eyries" were situated on the cliffs along the Susquehanna, the Delaware, and other suitable locations, some of them in use for many years. I personally knew of one along the Susquehanna, one occupied into the middle '50s. But in post-

war years the birds were seen less and less frequently in their old haunts, and at last they completely disappeared. Only a few arctic birds following their migration routes through Pennsylvania kept the memory of the peregrine alive.

Eventually it was learned that the pesticide DDT was chiefly responsible for their disappearance. Ingested in concentrated form in the bodies of prey species, it caused the females to lay eggs with abnormally thin shells that were usually broken during incubation. In addition, some contaminated birds lost the instinct to feed their own young.

In 1969 the peregrine was finally declared an endangered species, and in 1973 the use of DDT was almost completely banned in the United States. But the ban was tragically late. A 1975 survey found not one pair of peregrines breeding in the United States east of the Rocky Mountains.

Disheartening

The loss was especially disheartening to those of us who had known the bird in its native haunts, for our peregrine was a uniquely majestic bird. Except for the gyrfalcon of the Far North, it and the prairie falcon were the largest American falcons. A big female might measure 21 inches in length with a wingspread as much as 44 inches. The males, or tercel, were somewhat smaller. At rest a peregrine was a singularly sleek and handsome bird with slate-gray upper parts, creamy underparts barred with black, black head and mustache mark, and dark, piercing eyes. In flight it was absolutely breathtaking, whether winging in level flight with quick beats of its scimitar wings or dropping like a thunderbolt on a pigeon or teal.

The stoop, or dive, of a peregrine was hard to believe—even when seen. Fol-

A PEREGRINE in immature plumage "antles" his prey, an indication of his willingness to share it with the other young peregrine flashing by.

BUTEO



ACCIPITER



FALCON



HARRIER



OSPREY



lowing a few powerful thrusts, it had folded its wings, leaving them sprung enough to stabilize its descent as it streaked downward at an incredible two to three miles per minute! The impact was marked by an explosion of feathers as the prey was either snatched from the air, knocked to earth, or ridden to the ground in the clutch of powerful talons. Victims that survived the impact were quickly dispatched with the notched bill, which snapped the neck like a dead twig.

Preferred Prey

Birds were the preferred prey. Flickers, robins, jays, and grackles were standard fare. Starlings and feral pigeons were nearly always available in later years. Along the seacoast, flocks of plovers and sandpipers were frequently scattered in wild confusion by the falcon's lightning strike. Ducks were a bit more difficult. When attacked in flight, as most birds were, the divers, especially, headed for the water and attempted to dive out of sight.

For all their fierce determination, peregrines apparently had a sense of humor. I once saw one zero in on a crow leisurely winging its way across the broad Susquehanna near an eyrie. Dropping from a considerable height, the falcon arrowed beneath the terrified bird and rebounded in a dazzling climb, flipping the crow into a complete somersault in midair. Unhurt, but guggling with fright, the black one flailed desperately to reach the sanctuary of the mountain. But the hawk had had his little joke. He veered up into the sky and was soon out of sight.

Male peregrines usually arrived at their nesting areas in late winter, or subspecies rarely wintering more than a hundred miles from its summer range. The actual site was typically an inaccessible ledge or niche high on a cliff, but there are well known instances of falcons nesting on the ledges of city skyscrapers, close to an unlimited supply of pigeons. With the arrival of either a longtime mate or a new prospect, the tercel wooed her with a dazzling display of aeronautical feats—rapid, spiraling ascents, sizzling dives, pullouts that missed the cliff by inches, loops and

lls—an exhibition worthy of his reputation.

No nest was constructed. Three to five eggs, mottled with brown, were laid on the bare rocks where, after thirty days of incubation, the fuzzy white young were hatched.

At first the chicks were fed on the edge, nourished by slivers of meat ripped from the bodies of birds killed by the tercel, then both parents. When they learned to fly at the age of six or seven weeks, the old birds passed food to them in mid-flight. Soon they were catching food dropped by the adults flying above them, and eventually were tempting to capture their own prey. At first they missed more than they caught, but as they perfected their hunting techniques they depended less and less upon the parent birds. By summer's end they were on their own.

To know falcons intimately was to find the haunting emptiness at the unended eyries intolerable, and determined efforts to re-establish them in the East had begun almost as soon as the birds' plight was realized. The breakthrough occurred in 1971, when Heinz Meng, a biologist at the State University of New York at New Paltz, succeeded in breeding a captive pair of male's peregrines, a British Columbian subspecies. One young bird was raised.

Huge "Barn"

The following year, Meng's peregrines produced seven young, and after the breeding season the pair was turned over to Dr. Tom Cade, who was already conducting similar research on a grand scale at Cornell University. At Cornell's Laboratory of Ornithology, a huge "barn" 227 feet long containing thirty-eight stalls with ceilings two stories high was stocked with a number of peregrines of various subspecies, and during 1973 twenty young were produced. The following year twenty-three more were reared at Cornell. That summer it was felt that the environment was by that time sufficiently free of DDT to take the next step—returning the young to the wild.

Two chicks were raised by feeding them from concealment so that they never learned to know humans, much

less accept them as benefactors. When about five and a half weeks old the young birds were transferred to a partly covered screened enclosure on the roof of the Faculty Tower on the New Paltz Campus, an artificial eyrie, so to speak, where, sans parents, they would be protected from predators, be fed, learn to fly, and eventually to hunt. Meanwhile they would also form an attachment to their "home," and hopefully return there in two or three years to nest. The process is an ancient one used by falconers to make birds less dependent upon their owners. It is called "hacking."

Tercel Killed

When the peregrines were seven weeks old the enclosure was opened, and within a few days both birds were flying around the campus. Some weeks later, the day after the tercel had made his first kill (a pigeon) both peregrines disappeared, apparently capable of taking care of themselves. Some time later Meng found evidence that the tercel had been killed, apparently by an unknown person who had sent Meng a note threatening "those killer birds." It was assumed that the female shared the same fate.

The setback was obscured in 1975, however, by a successful hacking season. A number of young peregrines were conditioned in the East, in carefully selected sites ranging from old eyries to manmade hacking towers. Each site was monitored by a team of attendants who fed the birds daily, kept predators away, and recorded the necessary data. When the hacking boxes were finally opened, radio transmitters were attached to the birds to keep track of their movements while they polished their flying ability. Before they were allowed to strike out on their own, the young birds were trapped and the transmitters removed. That year twelve peregrines successfully made the transition to the wild in the East.

1976, some of the birds hacked the previous year showed up at the hack sites, proving they had acquired an imprinted affinity for the old "eyrie." In 1977, Dr. Cade was thrilled to learn

that a two-year-old male not only had returned to the hacking tower in New Jersey for the second year, but also had assumed the responsibility of feeding the brood being released there.

The same year a Pennsylvania site, among others, was notably successful. Under the supervision of Bob Berry, of Chester Springs, an eminent falconer who himself has successfully bred both peregrines and goshawks in captivity, three young tercel were placed in a hacking box on an old site along the Susquehanna River—the same eyrie near which I saw the falcon “upset” the crow. Under the watchful eye of two assistants, all three falcons fledged successfully, leaving their riverine haunts some time in early October.

Success/Failure

But for every success there seems to be a crushing failure. One healthy young tercel died in Pennsylvania as a result of being stoned by a group of youngsters he encountered 100 miles from his hacking site. At a hacking site near Wysox, Pa., in 1977, two of the young birds were killed by great horned owls (a peregrine foot and a radio transmitter were found in owl pellets!). After the third bird mysteriously disappeared, the sole survivor was transferred to another site.

My most personally disappointing event took place at the site where the three tercel were released last year. On June 14 I spent a half hour on a high bank overlooking the river, chatting with Rich Peiffer, a biology teacher from Carlisle. The day was sharp and clear, the surrounding mountains revealing every detail of leaf and boulder sharply outlined against the deep blue sky. Through Rich's spotting scope I could see a distant rock on which was perched a box-like structure attached to a screened enclosure. Through the mesh I distinguished the forms of several young peregrines in their brown juvenile plumage.

Rich was elated. “They got here on June 10th—three females and two tercel,” he said. He and Skip Tubbs, of Rehoboth Beach, were camping on the riverbank to look after them until they learned to fly and hunt successfully.

“Something else,” Rich added. “Tom Hake saw one of last year's birds sitting on the rocks beyond the hack box on the 24th of May, and I saw him fly off from the mountainside on the 28th, so he's made it back.”

Two weeks later Rich called me with bad news. A week after the birds had made their first flight, great horned owls killed two of the falcons and disabled another. There was nothing to do but trap the survivor (one had died before fledging) and abandon the project.

It's a program fraught with setbacks. And yet, that same week I received word that a peregrine hacked in Canada in a sister program had mated in the wild and produced young this spring—a historic first. So the pendulum swings, here a defeat, there a success. The future of the peregrine falcon hangs in the balance, but outdoor folks everywhere are applauding the effort of dedicated men that are giving this magnificent bird a second chance.

Where to See Peregrines

Although the locations of the hacking sites haven't been the best kept secret, there's little point in divulging them. Rather, I would suggest that anyone wanting to see peregrines go to one of the better hawk-watching areas where you can enjoy the sight of other more common raptors and stand a chance of seeing a wild peregrine pass by in migration. Most peregrines migrate in the first three weeks of October, but late September is also worth trying.

Hawk Mountain Sanctuary, on the Berks-Schuylkill county line, is probably the most famous hawk lookout in the world. Directional signs to the sanctuary can be seen at either Kempton or Dreherstown, Pa. There is an entry fee, but the experts usually on duty at both the North and South Lookouts make it worth every cent, especially to the beginner who is unsure of identification.

Bake Oven Knob, on State Game Lands 217 is another excellent lookout. It is north of New Tripoli along the Appalachian Trail atop Kittatinny Ridge northeast of Hawk Mountain.

Another good location is Waggoner's up, on a private sanctuary north of Marlisle just off Route 74.

While the Pennsylvania lookouts are hard to beat for variety, the chances of seeing a peregrine are still greater at certain coastal locations. One of the closest to Pennsylvania is Cape May Point, on the southern tip of New Jersey. Hawk watchers usually leave their cars in the parking lot at the lighthouse and watch from that vicinity, but depending upon wind and weather the viewing is sometimes better at other spots. Thanks to the flat terrain and absence of tall trees, it is possible to see where most of the birds are passing through and intercept them.

Assateague Island National Seashore is another great peregrine corridor. The upper end of this barrier island is in Maryland near Ocean City; the other is near Chincoteague, Va. Most peregrines are seen from the beach and dune areas.

Identifying a Peregrine

The peregrine falcon is a medium-sized hawk with the long, pointed wings typical of falcons. (Don't mistake the partly closed wings of other hawks passing by in a strong wind for the pointed positions of the falcon—a common error among beginners.) The peregrine's flight is extremely swift, with fast but shallow "rowing" wingbeats. Like most falcons, peregrines in migration do little soaring, preferring to hurry to their destination.

If the bird is close enough, you can see that the color of the upperparts is bluish slate-gray, with a black head that often displays a distinct mustache mark. The underparts are white with a cream to pinkish-buff wash and black barring. Under surfaces of wings and tail are white, thickly barred with blackish. Immature birds are dark brown above with paler feather edges, and usually with distinct mustache marks. The underparts are buff streaked with black.

Both sexes are considerably larger than either the kestrel or the merlin, and can be distinguished from the large gyrfalcon by the latter's less boldly marked head and the slower, heavier wingbeats.

GYRFALCON
(GRAY PHASE)
CAN ALSO BE
WHITE OR
BLACK

RARELY
SEEN IN
PENNSYLVANIA

PEREGRINE
FALCON

IMMATURE

KESTREL
(RIGHT) AND
MERLIN (BOTTOM)
ARE BOTH SMALL
FALCONS



Weights of Pennsylvania Bears

By Walter S. Kordek

Cooperative Wildlife Research Unit

Jack M. Giles

PGC Wildlife Biologist

“HOW MUCH DO bears weigh?” That’s one of the most common questions asked bear biologists. To answer this question accurately, we examined 1,254 actual scale weights obtained from bears killed during seven November hunting seasons in Pennsylvania (1969 through 1976, except 1970). Data were collected at check stations by Pennsylvania Game Commission wildlife biologists and Pennsylvania Wildlife Research Unit personnel (Table 1). Most bears were presented for examination by successful hunters; some had been taken illegally and confiscated by district game protectors.

The largest bear on which an accurate weight was obtained during this study was a 560-lb. male, the smallest a 32-lb. female cub. These were live weights.

The most striking thing we learned about the weights of bears was the difference between males and females. Males are considerably larger than females at all ages and the largest bears are invariably older males. The weights examined show that all bears continue to grow for the first few years of life. Females usually reach their maximum potential weights in their third or fourth year, while males usually continue to gain weight for several more years. Table 2 shows the weight gains for both sexes between their first year and adulthood.

We also examined weights by year and by administrative division (primarily Northcentral and Northeast) to see if any differences existed.

Interestingly, almost no differences were found among bears of the same age and sex. All areas of the state appear to provide sufficient food for the available bears to achieve their maximum potential growth. Even years of mast failure, alternate food sources are available which bears use to continue their rapid growth. Food does not appear to be a limiting factor even among adult females which are subjected to the stresses of producing and nursing cubs. Of 238 adult females weighed, 114 were accompanied by cubs and 124 were alone. Those with cubs averaged 160 pounds (dressed weight), while those without cubs averaged only 100 pounds heavier.

Large Food Supply

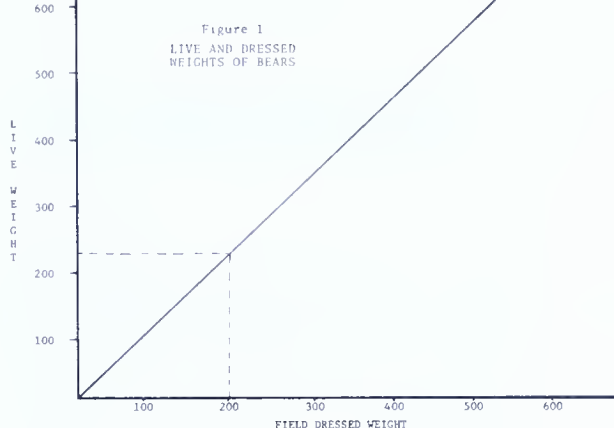
Pennsylvania black bears have the potential to grow quite large because of the large food supply available to them. Females occasionally exceed 300 pounds dressed weight, but this is rare; the average is 141 pounds. Males, on the other hand, can and occasionally do grow to tremendous weights although the average is only 193 pounds. The largest Pennsylvania bear on record was a male taken in 1938 which exceeded 600 pounds. (Some confusion exists, however, about whether this was a live or dressed weight.) Each hunting season one or more males are taken that weigh over 500 pounds field dressed. In addition, one 12-year-old male captured as part of the Pennsylvania black bear study could not be weighed on a 600-pound-capacity scale. Its weight was estimated at 630 pounds.

It is possible to estimate the live weight of a bear from the field dressed

Table 1
Numbers of bears weighed for this study.

	Weighed whole	Weighed field dressed	Total
Males	94	499	593
Females	144	517	661
TOTAL	238	1,016	1,254

weight. The accuracy of such an estimate is quite variable, however, depending on how thoroughly the animal is field dressed, how much blood has been lost, and even on whether the animal had a full stomach or not. We examined the weights of 97 animals before and after they were field dressed (all internal organs removed) and found that, on the average, the field dressed weight plus about 15 percent should approximate the live weight of the animal (plus or minus about 2 percent). We have prepared a graph (Fig. 1) to help show the relationship between field dressed weight and live weight.



To estimate live weight, find field dressed weight on horizontal scale, draw a line up to the diagonal line and over to vertical scale. Ex.: A bear which dressed out at 200 pounds would have weighed about 230 pounds live weight.

Table 2

Average field dressed weights (in pounds) of Pennsylvania bears taken in November.

Age Class	Males	Females	Difference
Cubs	79	64	15
1 yr. 10 mo.	134	103	31
2 yr. 10 mo.	194	139	55
3 yr. 10 mo.	244	158	86
4 yr. 10 mo.	272	155	117
Older	346	177	169
Average	193	141	52

\$239,000 for Local Governments

More than \$239,000 is being distributed to county treasurers and local political subdivisions by the Pennsylvania Game Commission this year. The payments are made in lieu of taxes for State Game Lands throughout the state. There are more than 1,195,000 acres of Game Lands in Pennsylvania. The Game Commission provides twenty cents to local governmental units for each acre of Game Lands. Of the twenty cents per acre, eight cents is presented to the county, another eight cents to the local school district, and the remaining four cents goes to the township board of road supervisors. Funds for the purchase of State Game Lands and for the payments made in lieu of taxes come from the sale of Pennsylvania hunting licenses.

Deer and Bear Records Book Available

Pennsylvania Big Game Records, 1965-1976, is the complete report on the Game Commission's six statewide deer and bear scoring programs. This 112-page paperback book contains a complete integrated listing of all Pennsylvania-harvested deer and bear which have been measured during the programs (using the Boone and Crockett system) and which meet the minimums established by the commission. In addition, personal accounts of most of the hunts which collected the top trophies are included, along with photos of more than 160 high-scoring deer and bear, annual harvest totals from 1915 through 1976, and other informative items. Price is \$1.00 delivered, from Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120.



Near Death in the Delaware

By Walt Hughes

THE STORY you're about to read is true. It really happened, and it happened to me while I was hunting deer during the 1976 archery season. It's the story of a mishap I'll never forget. Maybe it will be a lesson to others. . . .

The sun was shining bright, and the day was cool and crisp. Mother Nature's hand of autumn was beginning to grab hold of Pennsylvania's woods. Only by physical presence in the woods could one appreciate the picture nature had created. The blood in my veins was running hot with fever, a fever that was no stranger at all. It comes over me each year. It runs in the veins of many a hunter throughout this nation.

The archery deer season was open, and I was doing what I do each fall—heading for the woods. I had been hunting earlier in the month, without any luck, mostly in Bucks County though I spent one weekend in Wyoming County with some colleagues. Deer were everywhere, but I couldn't hit one. I overshot, undershot, led too far, misled, shot every way but into a deer. And, gee, during practice all year I was doing so well, too!

I had heard about an island in the Delaware River some eight miles north of New Hope in Bucks County. It sounded like a good spot to try, so I packed all my gear and canoe in the truck, and early one Saturday morning headed north to New Hope. At daybreak, I found myself on a landing across from the island north of town. The river was up about ten feet, due to heavy rains, and running at super high water. For sure it would be dangerous for anyone to go on it under these conditions, but the fever I had was running hotter than the river. And so I launched my canoe just north of the island.

The water was rough, but I managed to reach the far side of the island and make a base camp. By 8:00 a.m., I had begun a day of hunting. There were

some duck hunters on the river side of the island, and three hunters with dogs going along the edge of the woods. I watched all of them from a tree perch I found in the woods. While in the tree, the hunters with the dogs passed right under me, completely unaware of my presence. As I watched them leave and walk down along the wood line, three does came walking out of the woods behind them. I couldn't get off a shot because the tree branches and some bushes were in the way, so I just watched as they browsed awhile. Soon, they too vanished into the woods.

Blasted Off

I stayed in the tree for about two hours. While there, I observed a gray fox stalking a ringneck just below me. The fox moved ever so slowly, crawling on its belly, stopping, then inch by inch trying to get closer. The ringneck was aware of his presence all right, for it stopped eating and squatted down, pulling its neck in, then occasionally extending it to look around. What a sight those two made, one watching, the other stalking. It was an unusual situation for a human to see. Just as the fox was about to pounce, that old ringneck blasted off, leaving the fox to just sit and watch. I almost broke out laughing at the fox's expression. Then the fox also vanished into the autumn leaves.

I spent the rest of the day checking out deer signs. I saw two more deer that day, and one was a Y buck. Both were too far away to get off a shot. Deer signs were very good, with buck rubs everywhere. I decided to return another day. When I returned, I could go straight to the best spots and spend my whole time hunting.

I returned to the beach where I had left my canoe and little camp. I ate and after finishing repacked my canoe. Almost everything was ready to return home. I had left my canoe on the beach, with just the bow pulled up on

the roots of a large tree. The drop-off from the island at this point was very sharp and steep. It started about three feet deep and dropped sharper just a few yards off the island. I originally had planned to camp out overnight, but decided since the river was so high I'd make my hunting trip another time.

I returned to the campsite to be sure that all was clean and that the fire was out, and to make sure I had not forgotten anything. When I returned to my canoe, I found to my surprise it was no longer there. It was floating down the Delaware River with a good-size tree behind it.

What could I do now? I suspected the tree had been washed down from upriver, and its course was just right to hit my canoe. There went my gear, my bow, my pack, my sleeping bag, my John B. Stetson hat—and my canoe! WOW! How was I going to get off the island?



K.E. LAAGER

I SPENT THE rest of the day checking out deer signs. I saw two more deer that day, and one was a Y buck. Both were too far away to get off a shot. Deer signs were very good, with buck rubs everywhere.

I took off like a bullet. As I think about it now, that must have been something to see. There I was, 6'3", 270 pounds, running for all I was worth along the edge of the island, in and out of the trees and rocks. Anyone who saw me probably thought I'd gone completely batty.

Capized

As I neared the end of the island, the canoe was about ten yards from the bank. Well, it was do or die for me by this time, so I jumped into the river and somehow caught my canoe. I freed it from the tree and attempted to get in. Just as I did, we were in the delta at the end of the island, and I was hanging on for dear life. Before I could do anything, the canoe hit a submerged tree and we capsized.

I can't tell you how cold the river was. Or how cold it feels when it makes its way through your clothes. For sure, it opens one's eyes—very widely. I found myself holding on to the bottom of the canoe. As I attempted to get on top of it, it collided with another tree. This time the canoe was broadside when it hit. The force of the water took the canoe under and, in doing so, it pinned my legs between the bottom of the canoe and the other submerged tree. Only my head and shoulders were above water. I held on to a paddle, which I used to brace my head out of the water. I fought to get my legs free, but it was useless. It was getting late, and it would be dark soon. Who would be able to see me out here? I didn't think yelling would help, but I yelled. By now my arms were screaming with pain from holding my head up with the paddle. I thought for sure this was the end.

The cold water was numbing my body, and waves were splashing over my head. The water squeezed the canoe against my legs like a vise. The pain was terrible. I knew I had to keep my head and not panic. I decided to take off my life jacket. To do so, I had to let my head go underwater. Holding my breath, I dipped beneath the icy waves and managed to remove the life jacket. I used one arm to wave it.

By this time I had been in the water

about a half hour, and I didn't think I could last much longer. Then I heard fire whistles going off. Freezing there in the water and fighting to breathe, I kept thinking, Please, don't let those whistles be sounding for a fire! Minutes later, I noticed red flashing lights along the tree line on the Pennsylvania side of the river. "Oh man, I hope they're for me!"

I was still fighting and had now managed to get my right leg free, but my left leg was still pinned. I knew I had only a little while longer. My arms couldn't support my head much more, and I knew I couldn't hold my breath long either. Then I heard the boat. The motor from a boat in the water. I hope they don't miss me, I prayed. I hope that's there for me. It seemed like an hour went by, but it must have been only a matter of minutes till I saw a boat with two men in it. Nobody was ever happier to see anyone than I was to see those guys.

Things became a jumble. Somehow, they managed to get me free and dragged me aboard the boat. My teeth were chattering so hard, I couldn't even talk. My whole body was shaking. The pain in my knee and my ankle and my lower left leg was tremendous now.

The two men got me to shore, reached their boat and put me on aurney. It took six good-size men, training, to carry me up that embankment to the waiting ambulance. Inside, they cut my trousers off me. I remember they were talking to me, asking me what had happened. One fellow got me a glass of milk, then off we went to an area hospital. Later that night,

after I was checked out and it was found that none of my bones were broken, they let me go home.

Well, I lost my canoe, my bow and all my gear that day. It was all washed away. I'm hoping someday I'll be able to replace it. But, I'll tell you one thing I did, I didn't wait for Sunday to go to church. As soon as I got out of the hospital, I headed to the nearest place to make my peace. Somebody up above must have been looking out for me that day.

Many to Thank

I have a lot of people to thank— whoever saw me and called the New Jersey State Police, and the members of the Rescue Squad and River Rescue Squad who risked their own necks to come out and get me. It's not often that we have an opportunity to really appreciate the work that these people do. But I would like to leave you with just one last note. I certainly learned a long-lasting respect for the Delaware River and the force of its water, and I learned how stupid it is to take unnecessary chances. But to all you folks that like the outdoors, and all you hunters and fishermen and sightseers who might be enjoying yourself along the Delaware River: Should you happen to come across a gray John B. Stetson hat, or my bow, I would appreciate your getting in touch with me. I'd sure like to have them back some day.

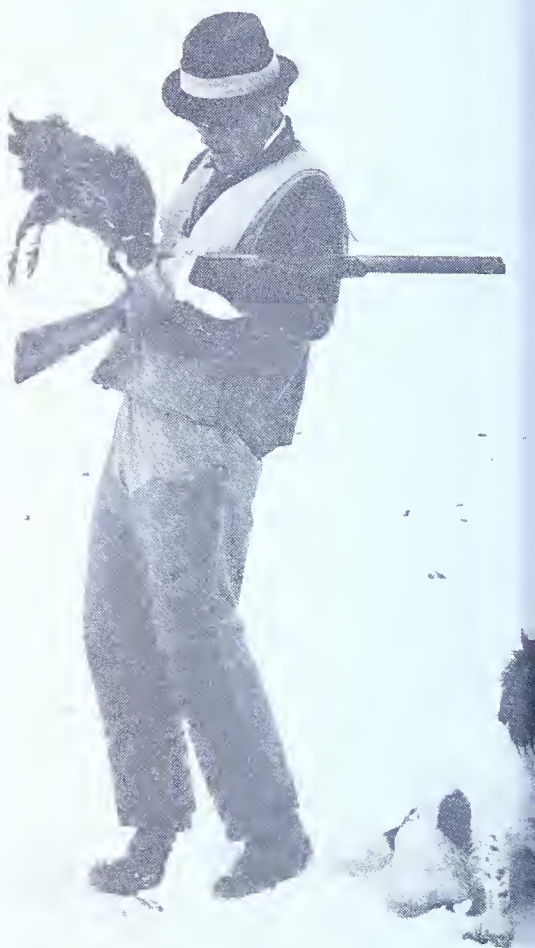
As far as going hunting out on that island again, well, I'm sure I'll be back there. But I'll wait for that water to go way down before I put another canoe into it.

Twenty-Six Species of North American Big Game

The twenty-six species of North American big game recognized by the Boone and Crockett Club are: Alaskan brown bear, black bear, grizzly bear, bison, barren round caribou, mountain caribou, Quebec-Labrador caribou, woodland caribou, cougar, Columbian blacktail deer, Coues deer, white-tailed deer, mule deer, Rocky Mountain goat, Alaska-Yukon moose, Canada moose, Wyoming or Shiras moose, muskox, pronghorn, bighorn sheep, Stone sheep, Dall sheep, desert sheep, Atlantic walrus, Pacific walrus, and wapiti or American elk.

Fun With Springer Spaniels

By Nick Sisley



MIXING SPANIELS with pointing dogs seldom works, but I remember one day when it did. I was training bird dogs professionally at that time, and I had invested about three weeks' training on an exuberant springer spaniel gyp. During that period she had been put through the usual paces of yard work, retrieving boat fenders, fetching dead pigeons, and I had killed a few pigeons over the dog. Hunting season had started, and I could see she was ready for the real thing. Only problem was, on most occasions I ran two dogs at a time, and I had a flock of pointing dogs being trained that fall.

Consequently, in the interest of expediency and conservation of time, I put that springer down with a 12-month-old German shorthair that first hunting session. I even recall the first game find she had. We had worked

SHAG IGNORES Bashline's efforts to stuff rooster into game vest. The springer apparently feels he did his job by retrieving the bird, so the rest is up to Jim.

down through a timbered-off valley looking for grouse. Most of those we flushed went out well ahead, so we had no chance for a shot. The one or two that did come up within range managed to dodge our shot strings.

It was while we were making our way back to the pickup that Janey flushed her first real game—a woodcock. When the bird went airborne, only a scant foot from Janey's probing nose, she was more surprised than anything, and when my light 20-gauge centered on the fast departing target and she saw it fall, there was a pause of several seconds. Surprise again, I guess. But then

her instincts took over. She scurried to the bird ahead of the shorthair, then turned proudly to fetch that first game. Few dogs I've owned and trained have responded so well to so little training. Ever since that day I've had a soft spot for springer spaniels.

But that wasn't the end of that day's story. In the afternoon my hunting partner bagged a timberdoodle that one of the other dogs I was training had pointed. Unfortunately, the bird fell into the little stream that bordered the alder covert we were hunting. The pointer saw the bird fall, but balked at entering the cold water. I had never given the spaniel any blind retrieve training. I simply told her to sit, then gave her a line, pointing where the bird was—in view only about 15 yards away. Guess I was lucky that she saw the dead bird I was pointing toward, for when I gave the command to fetch, she hit the stream in full stride and went directly to it. Moments with bird dogs like that are meant to be savored.

I remember a few years ago when Clayt Dovey, Johnstown outdoorsman, was interviewing me about bird dogs for his radio show. We spent the entire taped program talking about pointing dogs—the different breeds like pointers, English, Irish and Gordon setters, Irahthaars, griffons, Brittanies, Weimaraners, etc. At the end of the program he wrapped it up with this final question.

"Okay, Nick. We've talked about all these dogs. Now tell us which breed you think would be best for the average Pennsylvania hunter."

Without hesitation I replied, "The springer spaniel."

His jaw fell about eight inches. We had been talking about pointing dogs and I answered with a breed that flushed. For all I know, Clayt never even ran our taped program on the air. To this day I think he feels I threw him a curve ball. Not so. I have been asked the same question about bird dogs on several occasions, before and since that radio program with Dovey, and the springer is always my answer. Yet I don't own one.

Some day I will own a springer. There's only so much room in my

backyard kennel, but one of the next bird dogs I buy will be a springer, that's for sure. The hunting experiences with springers related a few paragraphs back are intended to give the reader some idea of why this breed is such an excellent choice for the average hunter, especially in Pennsylvania.

Late last fall I got together with outdoor writer Jim Bashline and springer man Bill Winney for a pheasant hunt. Those experiences further enforced my belief that springers are an excellent choice for many of our state's dog men. Here's how it happened.

We started the hunt with a little male springer that Bill called Jim. Naturally I asked if the dog had been named after Bashline. I only heard part of Winney's muttered reply, but I swear he claimed that Bashline had been named after the dog. Anyway, Winney, the huntmaster, had chosen a thick swale that bordered the north side of a creek to start our hunt. There had been a fresh snowfall during the night, and Bill felt many of the birds from the surrounding farms had gravitated to this thicket for protection from the elements.

We had a pow-wow at the edge of the covert. Bill sat the spaniel at his heels, then made his spiel to Bashline and me. Jim was to load that beautiful Model 21 Winchester of his and take the stream edge. I was to work the outer portion of the thicket on the opposite side, one that bordered a harvested cornfield. Winney would take the middle ground, busting brush with his dog. We would all be close enough to see one another.

Two Shells

I climbed a bank to get into position while Jim and Bill continued their confabulation. Once they saw I was ready, Jim pulled two shells from his vest to load that super side-by-side of his. Bill made the mistake of turning the springer loose, and Jim made the mistake of taking his first step into the thicket before he closed the action. The rooster took off in a flurry of snowflakes. We were all surprised, and Jim's timing was a split second off since he had to close his shotgun before he could start it into action. The reports of two 12-gauge loads greeted the morning air,

but the short fusillade failed to connect. Hunting action can't get started any faster than that!

That first bird flew a long way, crossing a creek in the bargain. Consequently, there was no chance for us to follow him up. There was nothing to do but continue forward, sticking to our game plan, realizing it was still early in the contest but that we were down: Pheasants 1, Hunters 0!

Jim—the Springer

Jim—the springer, not the shooter—quartered back and forth through that bottom like a champ. He'd gotten a snootful of that first bird, and now he was fired up. A hundred yards through the thick bottom he snapped at the tail feathers of a hen bird and chased her for ten yards. When no one shot, he returned to quartering back and forth in front of his master. Only 40 yards farther, the youngster dove into a blowdown and a hen came rocketing out the other end. Three pheasants in the air, and we'd been hunting only a few minutes. This was getting interesting.

At the end of the thicket, where the brush ran into a harvested and snow-covered grainfield, the spaniel dove into the last patch of cover, her hind

quarters quivering like a shimmy dancer. I could see from her actions that she winded something, so the Remington 1100 I was carrying that day was ready. The shot was easy, the cackling cockbird going straight away. I waited until he was out some distance so as not to ruin the meat too much, then slapped the trigger. I was testing some new Federal loads, their Premium ammunition that features copper-plated shot. Its extra penetration powers proved excellent that day on pheasants, which are always a tough bird to kill.

The spaniel went directly to the ringneck, which was in open view on the snow-covered field, picked up the big ball of iridescent feathers and tasty meat, raised his head high, and pranced back. His actions subtly announced to our little hunting party, "Hey, guys, look what I have. Don't you wish you could perform like me!"

The next patch was unproductive. When we finished hunting it, Winney suggested we return to the vehicles which were now closeby. He wanted us to see his old spaniel Shag, a retired field trial competitor. Four years previously he had finished in the top ten in the National Amateur Springer Spaniel Championship—quite an honor.

SPRINGER MAN BILL WINNEY accepts long-tailed rooster from his dog Jim after a nice retrieve on late November hunt.



While we took a break at the car, I learned that Winney had been training springers for eleven years. That's when he left the big city life of New York and moved to Pennsylvania. As he had migrated to the southeastern part of the state, the heart of our pheasant country, he wanted a dog to handle that wily Chinese transplant with the ring around the collar. Ed Whitacre, noted spaniel man from Downingtown, talked Bill into observing his springers during a training session, and Winney has been sold on the breed ever since. His first pup came from Texas, but the southern-bred spaniel took to Keystone state pheasants like young ducks take to water.

Since the almost bare, harvested fields were covered with snow, Bill wanted to keep hunting the woods and thickets. Our next foray took us uphill, along one side of a steep gully. This time I had the low ground, Jim had the edge that bordered the harvested field, while Winney and his quartering Shag had the sloping and thick bank between. We saw the bird on the ground ahead of the dog. The strong-legged trutter disappeared under a brushpile, but Shag had the scent and wasn't far behind.

This time Bashline was in the right position when the bird tried to make his airborne exit. Instead of trying to escape by sticking to the cover of the woods, the bird tried to fly across the open field. There he was intercepted by the shot charge from the gun I envy most, Bashline's 21! Naturally, Shag sat manfully when the bird flushed (he had been trained to do that as a field trial dog). But when Bill gave the command to fetch, he went directly to the bill, picked up our second prize of the day, and pranced back as only a springer can do.

We continued up the hill. Near the next the cover ended in another harvested field. A ringneck that had probably been running ahead chose to sit it out at the last patch of cover, in hopes he'd pass him by. But Shag had the scent and sent him airborne. The bird tried to escape by flying behind our line of three. Jim was already ahead, anticipating that the bird was going to try

to go out that way. Winney was the only man with a shot, but his Ithaca barked once—and decisively. Rooster number three was in the bag.

A little farther Jim saw tracks in the snow. The prints bordered the edge of the thick stuff and headed for a corner, the end of the grainfield not 50 yards away. Shag had the scent, but we never did con that bird. Maybe he flushed well ahead and we didn't see him, but whatever the reason, that cockbird was too smart for us. We worked back toward the car along a fencerow between two grainfields, thinking we'd flush at least one bird there. The springer stayed on the windward side with his nose constantly sniffing the air, but we didn't find a thing.

Young Spaniel

After soup and a sandwich at the car, we started the afternoon hunting with two springers, Jim and a 15-month-old spaniel that Bill hadn't been having much luck with, Skip. The young spaniel hadn't had much experience on game, but during training sessions the dog hadn't shown a great deal of interest in hunting. The youngster made a complete turnaround that afternoon.

It was a short hunt because we flushed and bagged three birds so quickly. Jim scored first when Skip sent a rooster rocketing out of a honeysuckle thicket, almost minus his tailfeathers. It was a long shot, but Bashline broke the bird's wing. Skip was in hot pursuit, but so was his brace mate. The older dog beat the pup to the bird, but Skip got a firsthand look at what retrieving is all about. Maybe he was a little jealous when he saw the praise doled out for bringing the bird back.

Winney dumped the next rooster. Skip flushed him from the base of a little hollow, in the thick undergrowth that often grows in such a place. I was just ready to slap the trigger when Winney beat me to it. The bird fell fairly close to me, and I encouraged Skip to fetch. It didn't take much urging. In seconds he knew what it was like to feel the warm body of a bird just killed, and how the loose feathers choke a little. He also knew that bringing the bird to his master was the proper thing



BASHLINE helps Sisley get one of his roosters into his jacket. The three hunters had a good day on ringnecks, limiting out with the help of the springers, which are known as top pheasant dogs.

to do. Skip became a bird dog that afternoon.

My chance came farther up that hollow. Skip flushed a noisy rooster high above on the bank to my left. He flew across the hollow, high in the first place, but even higher for me as I was at the very bottom. But I swung a good eight to ten feet ahead of the bird, and, with the 1100 still swinging fast, slapped the trigger. The copper-plated 7½s found their mark and the rooster came down like a stone. If I've ever made a shot beyond 50 yards, that was it. Winney couldn't believe the bird came down. Needless to say, I was elated. But Skip put the icing on the cake. The bird was almost 100 yards away from where he flushed it. He went directly to the fall, hunted a few minutes, then came up with the bird. A beautiful retrieve, and the perfect end-

ing to a perfect day afield with springers.

What I like most about springers is how well they perform with so little training. This is why I claim they are ideal for our average hunter. These days, very few of us have the time required to train pointing dogs. Pointers require hours and hours of training, no matter what breed we choose. Finished field trial performance in springers requires a lot of training and time, too; however, those who are interested only in hunting, for most anything that jumps, would do well to give this breed serious consideration. Springers do so much so naturally.

Training Tips

Here are some springer training tips that will help put game in your vest pouch. The big secret to initial springer training is to keep them in close but to avoid discouraging their enthusiasm. The breed's surprisingly strong instinct to please helps in this regard—and in practically all the other facets of their training. Winney never has seen the need for a check cord to keep his dogs within gun range. As a rule, young dogs just starting to develop a hunting pattern don't range far. Most of them start to stretch out their range only after a number of game contacts. It's okay to dish out mild discipline to a springer that has reached this stage. Winney has found the best method is to go get them quick and scold them. Harsh discipline is almost never called for with springers. Their psyche simply won't take constant punishment. They'll quit everything, including hunting. For the average hunter, this is good as most don't want to dole out anything but praise. Severe punishment at the wrong time can ruin any breed of dog. It's easy for inexperienced dog trainers to make mistakes.

Once Bill Winney catches up with a springer that has ranged too far, he makes him walk at heel for a short time. This is additional punishment because most of them want to resume hunting immediately.

Basics commands like sit, heel, stay and come are important, and should be taught to all springers. Many training

manuals cover the how-to aspects of his training. All of these can be done in the backyard in minutes a day. Those who don't do anything but give their springer those four commands may only have to take their dog hunting. In most cases they'll have success and a great deal of enjoyment and satisfaction. When a pointing dog encounters game, you may or may not get a shot, depending upon how well trained that dog is. When a springer encounters game, the hunter almost always gets shooting, no matter how little training that dog has.

Winney feels that springers are more sporting than pointing dogs. They usually flush game at some distance from the shooter. Once a pointing dog finds the game, the hunter walks in and flushes it himself. He's better prepared and the game is usually closer. I don't know whether I agree with Winney's belief or not, but it is a point I had never considered before.

Pointing dogs usually take more training to make acceptable retrievers than flushing spaniels, another point in favor of this breed. While they don't always take to fetching a boat fender like a Lab or a golden, they do pick up lead game with little encouragement. With experience they learn to hunt

Give

GAME NEWS

To a Friend . . .

dead with diligence. That's important.

Pigeons are great for training springers. They can be used to get a spaniel to quarter his cover better, introduce him to water, to start retrieving lessons, etc. For a comprehensive treatise on training springers, I recommend *Spaniels for Sport* by Talbot Radcliffe. It's available from Howell Book House, 845 Third Avenue, New York City 10022.

There will always be a pointing dog in my kennel, as I have the time and experience to train them. Many hunters don't. If you fall into that category, think seriously about a springer spaniel. I know I'll get an argument from fanciers of other bird dog breeds, but when it comes to the best all-around dog for the average Pennsylvania hunter, the springer is the breed that gets my vote year after year. And they're lovable, so lovable.

Available Publications

The following publications are available from the Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120. Prices quoted include taxes, handling and postage.

GONE FOR THE DAY, by Ned Smith. All of the outstanding columns and artwork which appeared under this title in *GAME NEWS* during a four-year period. Delightful reading for everyone. 216 pp., \$2.50.

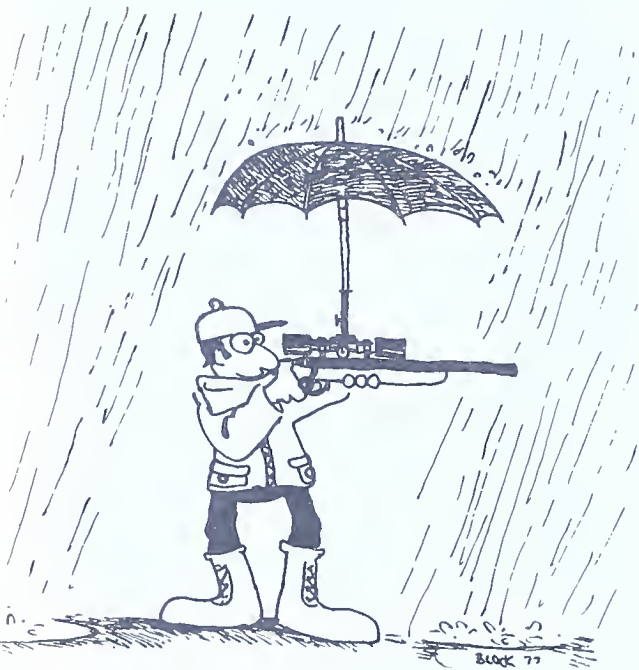
PENNSYLVANIA BIRDLIFE by Leo Luttringer. All about Pennsylvania's birds—what makes them tick, where to find them, how to identify them, what to feed them, how to conserve them. Color charts. 128 pp., \$2.00.

PENNSYLVANIA TRAPPING AND PREDATOR CONTROL METHODS, by Paul Failor, gives detailed information on all phases of these activities—sets, baits, etc. 96 pp., \$1.

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Preparing for December's Rains

By George H. Block, III



THERE ARE various methods of keeping a scope dry during bad weather—flip-open lens covers, fly-away innertubes, etc., but this fellow obviously has the best system as it keeps him dry too.

THE RAIN HAD soaked me through and now it turned to snow. To say I felt miserable would be an understatement, but this was the first day of the Pennsylvania buck season and I had to stick it out. Ed and I had traveled 150 miles from our homes near Pittsburgh to Warren County to hunt, and that's what I intended to do.

For the first time since I'd owned it, my heavy goosedown jacket wasn't keeping me warm, and the temperature was still dropping. If that buck didn't come my way soon, I'd be frozen by 5 o'clock. Visions of walking to camp stiff-legged in clothes of icy armor kept passing through my imagination. I hadn't seen another hunter for at least two hours and surely I was the only kook still on stand. If my boots froze to

the ground, I probably wouldn't be found until spring.

Something moved about 50 yards in front of me. Making it out through the driving snow seemed impossible, yet I strained to see. Another hunter? A deer? Maybe I was freezing and it was an hallucination. No, it was a deer, buck! The safety released without thought, I flipped open my lens cap and sighted behind the shoulder of the 6-pointer. The 270 roared, and I wasn't cold anymore. I had stuck it out on one of the foulest days of any buck season and got my deer.

Since that hunt ten years ago, I've been out on many days when it poured during buck season. Usually these days are accompanied by solitude, for most hunters refuse to go forth in a hard rain. I do not enjoy hunting in a winter rain, but I realize every available day of the season should be put to use. Man can not control nature, but he can live with it by proper preparation and proper care of equipment.

Rainy weather offers some advantages to the hunter, the most important being the ability to move silently because everything is soaked. Deer can be approached quite closely under these conditions, for rain somewhat neutralizes their finely tuned senses. But wet weather can be hard on equipment unless it is properly cared for. A coating of wax, grease or light oil helps protect the rifle.

Weatherproof with Glass

Every morning before a hunt I go over all the metal on my rifle with a lightly oiled rag, being careful not to touch the lenses of my scope. The new plastic finishes on stocks are virtually weatherproof, but a few places on the stock are sometimes left unprotected by the manufacturer. These should be taken care of long before buck season. A light coat of varnish or glass bedding in

the barrel channel and action cutout on the stock will weatherproof it. And even the wood under the recoil pad should be waterproofed. Wood that is left unprotected can absorb moisture and many times will warp slightly, changing pressure against the barrel and causing the rifle to shoot differently. When a rifle shifts point of impact, most often the scope and mount are blamed, but seldom is that the problem. Usually it's the wood shifting from the change in humidity in the home. Weatherproofing the stock helps prevent this shift.

During the hunting season, wiping off all exposed parts is appropriate after a day's hunting, but it's not advisable to remove the barreled action from the stock. This is likely to change the point of impact, making it necessary to re-zero the rifle. Bore sighting, even with a collimator, is no guarantee that the rifle will hit where you expect after taking the stock off. After a season of wet hunting, the rifle should be tripped and completely cleaned, of course, with special attention being given to those metal parts which aren't normally seen. Water can get onto the metal you might think is protected by wood, so a good rule is clean *all* metal.

The bore and chamber require special attention, for oil here before the hunt is a definite no no. The rifle barrel should be dry on the hunt and then cleaned immediately after. Usually just running a dry patch thru the bore will suffice after the day's hunt. Many times a slight residue of Hoppe's or oil will change point of impact and should also be avoided until the hunt is done.

While hunting, it is a good idea to place a piece of Saran wrap over the muzzle, to keep out snow or rain. This will protect the bore and will not affect accuracy. When the rifle is fired the gases escaping ahead of the bullet will blow this protection off before the bullet gets there.

Lens caps are a must. Any scope user who doesn't own a set is minus an important piece of equipment. There are many on the market, some with two end caps joined by a loop of rubber. With some of these, as one end is licked off, the whole setup flies off.

Usually there is a unit that connects them to the rifle so they do not become lost. These are simple but effective.

Another type is just neoprene rings with plastic windows in them. The hunter can look through the plastic lens and still shoot. These are fine protection, but who wants to pay \$100 for fine optics and then cripple their performance with cheap plastic? A third kind is similar but has spring-opened doors on each end. A push of the button and they pop open out of the way. Avoid opening them unnecessarily and they will do their intended job.

Innertube Protector

A good lens protector can be made from an old innertube. All you have to do is cut a loop as wide as the two ends of the scope. Place one end over the objective end and stretch the other over the eyepiece. The lenses will stay dry and a simple flick will send this makeshift flying so you can get off an aimed shot.

Some Kleenex should always be carried in a dry place. While caps provide protection for the lenses, there are occasions when they will pick up moisture and tissue can be used to clean them. The scope user should never wipe his scope lens with a dirty shirt or anything



AT TIMES it's almost impossible to stay warm and dry during December's rains. You're gonna feel like you're frozen solid, no matter what. So relax and enjoy it. You're a deer hunter.

similar. Modern lenses have an extremely thin flouride coating to cut down reflections and increase light transmission. This can be scratched or rubbed off easily, so wipe lightly and only when necessary.

Scopes in general have improved greatly since the '40s, but some are still better than others and the serious hunter is wise to buy the best he can afford. There is nothing worse than a scope full of moisture, and while the cheaper scopes may seem to have beautiful optics in the store, their sealing often leaves much to be desired. Many times I have told beginners buying their first scope/rifle combination, "If you must save money, save it on the rifle, not the scope." If you can't afford a high-priced variable, don't buy a cheap one. Instead, buy a high-quality, fixed-power scope.

Dependability is the first priority of a scope. While differences in expensive and lower cost rifles are often esthetic, the price difference in scopes is usually due to construction. A cheap scope will seldom take those December rains.

A poncho or rain suit should be part of every hunter's pack. Not that brown or green raincoat you used for fishing. Buy a new one in blaze orange. After all, you may not be the only kook out in

the rain, and safety should always be foremost in the deer hunter's mind. Two years ago my son was still in high school and had only the opening day and two Saturdays to hunt. The last day brought a miserable downpour. He knew he was going to post all day and had a perfect answer to his dilemma. We own a red inflatable mattress and he took this along and used it like a small tent. The rain came, but he stayed relatively dry.

While the modern hunter has moved more and more toward the use of acrylics and down in his hunting clothing, we shouldn't forget the advantages of wool. Nothing is warmer than quality down, and I enjoy its advantages, but it's next to worthless when wet. Wool is one material that still insulates well when wet.

Rubber pacs are a must, for any leather gets wet eventually if subjected to enough water, and wet feet can get cold and blistered. Eyeglass wearers should have a special wide-brimmed hat to provide some shelter from the rain.

Sometimes a little thought is all it takes to make a bad day huntable. Remember—buck season comes only once a year, so rain, snow or clear, the hunter hunts.

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A Nudge in the Right Direction, or . . .

Why Wasn't It Like This When I Was Growing Up?

By Toni Williams

GAME NEWS Staff Writer

"OUR ONLY HOPE is to get to the kids."

DGP Rick Hixson of Westmoreland County and I were talking on the way back from a visit to Derry Area High School, whose wildlife program consistently produces state and national winners of FFA awards.

Kids are where it's at, we agreed, and kids are the target of a cooperative program in wildlife management and habitat improvement guided by the Future Farmers of America and the Pennsylvania Game Commission. ("Kids?" Their level of knowledge and accomplishment were hardly childlike—and I was by far the smallest of the bunch physically. But that label is short and convenient.) Though the program

exists statewide, we chose Derry Area School District as an example because of its dynamic, well-integrated program of wildlife education.

Derry Area's environmental program begins well before high school. Program coordinator Jim Prengaman at Grandview School says the emphasis begins as early as kindergarten, but at that point is so closely integrated with other activities that there is no separate environmental instruction. Beginning in fifth grade, however, the seed is planted in the fertile ground of young minds sensitized in early grades to the needs of wildlife.

Prengaman, who also teaches a fifth-grade class, coordinates an outdoor education program for fifth and sixth

GRANDVIEW SCHOOL TEACHER Jim Prengaman puts four members of his "Eco-Team" through their paces in animal track identification. They were preparing for an upcoming Corps of Engineers-sponsored Eco-Meet.



graders. Fifth graders not only study environmental subjects in the classroom, but also spend several days at a local park. Traditional subjects are taught there with an outdoor slant; for example, students might write an essay for English about a wood duck they saw on a hike, or measure off an acre of land and convert the measurements to other units for math. Nature lore isn't missed. They also make plaster casts of animal tracks; learn sampling techniques to estimate the population of, say, spiders in an acre; practice identifying wildflowers, and so on.

In sixth grade, students get more of the same, and also spend a week or more in the outdoors day-camping and on one overnight campout. Here they again use the outdoors for reading, math, phys ed, and other subjects, as well as for more nature lore.

Both outdoors and in, kids learn about our natural resources and how to conserve them.

Youngsters have a chance to test the skills they've developed in the Eco-Meets sponsored by the U.S. Army Corps of Engineers. Student teams from several states compete in plant and animal identification, wildlife sign and track identification, orienteering, oral interpretation and scavenger hunts. (Kane School District of McKean County won this year's final meet; a school district from Ohio took second, and Hermitage School District of Mercer County placed third.)

The ground has been prepared, the seed planted; in high school, the crop is nurtured so the fruit may be harvested when these young people take their places as voting, resource-using citizens. The FFA wildlife program is only one aspect. Science classes study ecological concepts. (How many of us in the over-30 group had even heard of ecology at that age?) Biology, physics and chemistry classes focus on living organisms and systems, pollution, energy sources and other environmental topics. Hunter education is a mandatory part of phys ed for all students; school officials feel that, whether or not an individual ever hunts, he or she ought to know something about wildlife identification, firearm safety, wildlife

management principles, wildlife law, and the conservation ethic. It's good for them, it's good for our wildlife resources, and it may save some lives.

The FFA wildlife program is only a part of the whole environmental education program at Derry, but it's an important part, and for some students it's a major preoccupation. Students like Ted Caldwell, for example. He was this year's—and last year's—statewide winner.

Ted loves wildlife and the outdoors, and devotes an energy and intensity to it that would be expected only of a professional.

Photographer, Too

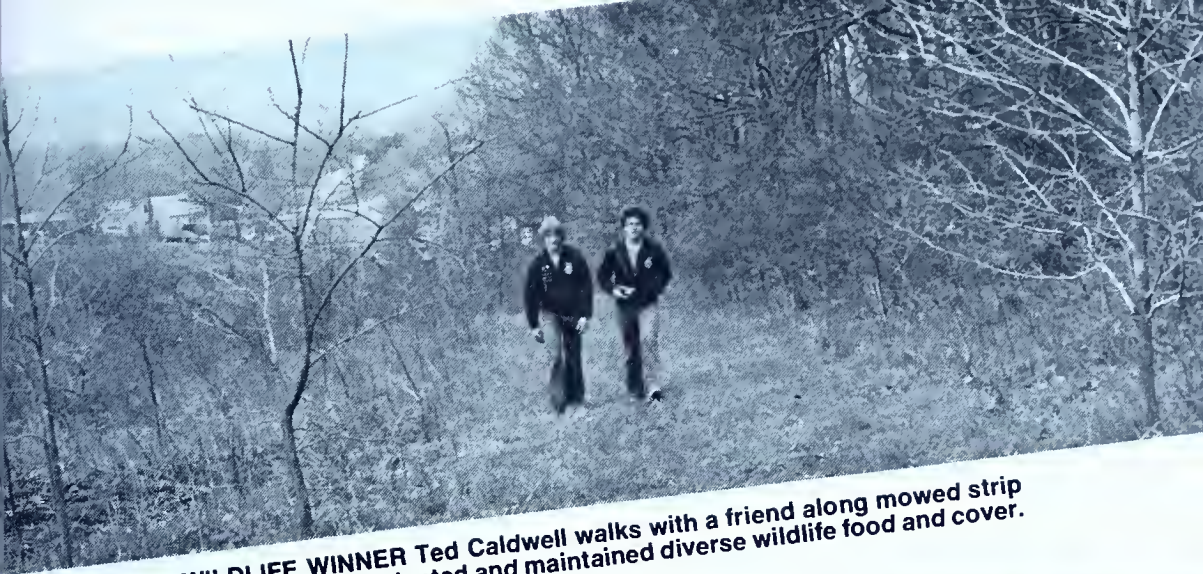
Each FFA student completes a project book describing what he plans to do, and then giving an hourly breakdown of what he actually accomplished. (Ted included several photos of his project area and his work in it; photography is one of his many talents.) Finally, the student summarizes the highlights of his project experience. Along the way, both district game protector and FFA advisor offer suggestions and approve plans. Game Commission officers may offer advice on, for example, how and where to plant or to erect nesting boxes. The Game Commission donates food and cover seedlings.

Ted's summary describes better than I could what he did in his 720-plus project hours to win statewide honors last year:

"Some of the land management programs I completed included maintaining ten acres of food plots, allowing sorghum to go unharvested near cover, providing cover by constructing brushpiles, planting food and cover producing seedlings, and pond management.

"After setting out songbird boxes, squirrel nesting structures, and winter feed, it was fun to observe the secrets of mother nature from a nearby blind.

"For conservation education and public relations, I presented fourteen slide shows to various groups. I also helped teach outdoor education, and competed in various conservation related functions and contests.



STATE WILDLIFE WINNER Ted Caldwell walks with a friend along mowed strip in project area where he planted and maintained diverse wildlife food and cover.



LEARNING TAXIDERMY "from scratch," Mark Kerin shapes form for deer head as Dan Wilhelms, also in FFA program, holds model. At center, FFA wildlifers clear brush near high school. At right, Caldwell (left) and John Dofallo dig soil test pit.



"D'YOU THINK it'll survive?" Wilhelms asks as advisor Dr. Campbell, left, and Dofallo, right, examine winter damage to shrubs. Below, the final test: Campbell and DGP Rick Hixson evaluate Caldwell's project book—but Ted doesn't look too worried!



"Since research is becoming an important aspect of wildlife science, I completed 100 hours of study and research on the ruffed grouse.

"My selection as a participant in the Safari Club International's American Wilderness Leadership School aided me by broadening my views concerning wildlife management. This experience helped to make this one of my most educational and memorable project years.

"I consider this a very successful and educational project year. It was also a busy year since I found it necessary to work part-time at Grabiak Chevrolet to finance this project.

CALDWELL compares unbrowsed, left, and browsed fencerow seedlings for the camera. Fellow Future Farmer Andy Queer lends his photographic skills to document damage.



"I would like to express my appreciation to the Pennsylvania Game Commission and the Department of Education for sponsoring this worthwhile program."

This is a pretty impressive record and it certainly reflects Ted's enthusiasm and effort. But I doubt it would have happened this way without some guidance.

Much of that came from Dr. Randy Campbell, head of Derry Area's vocational education department, and initiator of the FFA-wildlife program there. He's been working on it for ten years, and it's come a long way since its beginnings. "At first," he says, "we attracted the guys who were looking for an easy out." But gradually, with a lot of effort by Dr. Campbell and Harry Richards (game protector there before Hixson arrived), the program began to attract a different breed of dedicated young men. Fellows like Gary Miller, who's gone on to manage wildlife on five million acres of Weyerhaeuser land in the southeastern U.S. Or like Ron McNaughton, a recent grad who won a national FFA award for his project at Derry Area. A good program attracted good people, and good people made the program even better.

Derry Area's isn't the only excellent FFA wildlife program. (Grove City High School's program, for example, was profiled in July's GAME NEWS.) Wherever you find a really dynamic program, you're likely to find someone like Jim Prengaman or Randy Campbell behind it.

The FFA wildlife program is one of the most rewarding projects the Game Commission is involved in. We salute Derry Area and all the other districts who've worked so hard with such great results.

The Game Commission is permitted to accept donations of money or land from any person, association, corporation or firm. Contributions are tax deductible. Funds received go toward purchasing State Game Lands, which are used by hunters and non-hunters alike, and for other wildlife management uses. Persons or organizations who make such donations show their sincere interest in and support of conservation in Pennsylvania, and the Game Commission expresses its gratitude for their contributions.



Take a Stand for Squirrels

By Richard E. Faler, Jr.

TAKING A STAND is the best insurance a hunter can have for bagging at least one quick squirrel, with the possibility of several more. The steps involved are much the same as for taking a bowhunting stand for deer.

The first thing to do is to scout an area previous to the hunt. I prefer to scout several days in advance, but it can be done the same day as the hunt if necessary. The surest indication of squirrels in a given area is, of course, actually seeing a squirrel. Places you've seen squirrels prior to the season should be remembered. Every such spot remembered is a potential stand for the coming season.

Hunters often spook or miss squirrels while still hunting. These sometimes can be bagged by coming back later in the day or season and taking a stand.

Squirrel signs also indicate places frequented by Mister Bushytail. The

more dens, diggings, and shell fragments concentrated in a small area, the surer one can be of success.

The earlier a hunter gets in position before the time of greatest squirrel activity, the better. I always try to be on a morning stand before light, and at an evening stand at least three hours before quitting time. This might seem quite a bit of effort to take a squirrel or two, but I assure you that the earlier you are on stand, the better.

Spooking a squirrel when moving to your stand can result in a long, sometimes unproductive wait. Being an early bird, on the other hand, can not spook a holed-up animal. An unspooked squirrel will come out on schedule and will not be as cautious as one that was chased into his hole by a late-arriving hunter.

The hunter can sit or stand when in position, but it is best to choose a

location so that his outline is broken up rather than silhouetted. Most squirrel hunters lean or sit against a large tree trunk.

Clearing any noisy leaves away from around the feet will lessen the odds of error when a squirrel is sighted. Waiting can be tedious. Just as in deer hunting, though, a squirrel hunter on a stand must keep still and quiet. Noise and movement are danger signals to squirrels. They must be avoided to attain success.

After a period of quiet time, the hunter will blend into the surroundings and be forgotten by the creatures of the woods. They will resume their normal activities. This is when squirrels begin to pop into sight.

It is a temptation to shoot the first squirrel which presents itself. Many hunters do, on the assumption that a squirrel in the hand is worth two in the tree.

On the other hand, the hunter who hangs in there and waits may have several squirrels in sight when he feels it is time to commence shooting. This is usually my approach. It makes for fast shooting and a heavy bag—if the shooting is on target.

A squirrel hunter in this situation

must be sure to cleanly kill his squirrels and mentally mark where they fall. A mortally wounded squirrel may fall, lie on the ground for several minutes, temporarily revive and take off. Be sure all squirrels are dead. When several squirrels are running different directions at the same time and a hunter is excited, it is all too easy to shoot one squirrel, then another, and perhaps try for yet another—then forget where the first ones are. It's a shame to waste game animals in this manner. Be sure to mark your kills.

Taking a stand for squirrels is a very effective hunting method. Aside from the single, double and triple kills I have personally executed from a squirrel stand, an outdoor buddy, Randy McCracken, related a super example of this method's effectiveness.

Randy, then 14, and his dad were hunting in northern Pennsylvania's big woods. Randy got several grays, but his dad really struck it rich: he dropped a black squirrel, the first one Randy had ever seen. Sticking to the same stand, Randy's dad shot five more—all blacks. A limit of bushytails, whether blacks or not, from one stand in a couple of hours is enough to make any squirrel hunter smile with satisfaction.

Books in Brief . . .

(Order from publisher, not from Game Commission)

Energy Primer: Solar, Wind, Water and Biofuels (Rev. and updated 1978), ed. by Richard Merrill and Thomas Gage, Dell Publishing Co., 1 Dag Hammerskjold Plaza, NYC 10017, paperbound, 10x13, 256 pp., \$7.95. The folks who brought you "access to tools" in the *Whole Earth Catalog* bring you access to energy—of the renewable kind. Small-scale systems for individuals, small groups or communities are emphasized. More than a concise and fascinating textbook covering everything from woodlot management to the economy and politics of solar energy, the *Primer* lists books to read and groups to contact for more information on a myriad of topics. Lots of drawings, plans and photos. If you're just curious or want to beat the non-renewable fuel crunch, this is the place to start.

The Ruffed Grouse: Life History, Propagation, Management, by Gardiner Bump, Robert W. Darrow, Frank C. Edminster, Walter F. Crissey. (Original printing 1947.) Ken Szabo, Grouse Tales, 17130 Chatfield Ave., Cleveland, Ohio 44111, 960 pp., \$13.⁵⁰ postpaid, available only from publisher. Reprinting of a classic in grouse management, long unavailable. No other book with such exhaustive detail exists. Recent work, of course, is not covered but the thick volume is nonetheless valuable, and Bonasaphiles will want it for its historic significance. Includes numerous black-and-white photos, illustrations, tables and charts. At about 11¹/₃ cents per page, you can hardly beat this bargain.

Trapline Tips

by George Dolnack

FEW OUTDOORSMEN deliberately set out to make things harder for themselves while in pursuit of their favorite avocation. Yet, it is surprising how many obvious self-helps are overlooked or ignored. It seems that we are forever seeking complex solutions to simple problems. But this need not be.

For instance, many trappers won't bother to find a place to set their traps until the season opens. By this time, most of the choice spots are spoken for or occupied. Instead of waiting until the last minute, it's a snap to locate potential trapping ground on a year-round basis. This is easily done by being observant while out on any type of outdoor excursion. If a half dozen or so places are lined up, including small streams, it affords several advantages.

First, it prevents overtrapping of any single area. It also provides the option of trapping the feeder streams during periods of high water, as they are easy to wade at this time and recede more rapidly than the mainstreams they pour into.

It's also a good idea to obtain written permission from landowners to trap on their property. And it's suprising how much posted land is available just by asking.

When approaching a landowner, explain how he may benefit from your efforts. Point out that by trapping you will help reduce damage not only to crops but also to property as well. Stress that you will keep an eye out for stray livestock, vandalism, broken fences, open gates, and suspicious activities. Also demonstrate the operation of your traps to allay fears of having pets or livestock injured in them.

Everyone has his own method of conditioning traps. A favorite is to make a concoction by boiling black walnut hulls in water. After the brew has stewed for a few hours, immerse traps in the liquid for fifteen minutes or so. After removing, hang outside from a



EVERYONE HAS HIS own method of conditioning traps. A favorite is to make a concoction by boiling black walnut hulls in water. After the brew has stewed a few hours, immerse traps for fifteen minutes or so.

tree or in your toolshed for a few days.

This treatment is inexpensive and coats the traps with natural oils which retard rust. Don't discard the brew. It can be recycled to make an excellent



A "GOTCHA STICK" is the trapper's third hand. Easily constructed, it's indispensable for removing traps or catch from water, makes a good wading staff, etc.



DRAIN PIPE, above left, makes likely run for furbearers. Visegrips make it easy to hold furbearers for pelting, above. Left, preparing trap conditioner—also useful for staining pack-baskets, gun racks, etc.



stain for packbaskets, gun racks, gun stocks, and furniture. Prior to using as a stain, filter the solution through a fine strainer or piece of cheesecloth. Apply with a soft rag or brush.

One of the most useful tools on the trapline is the trapper's third hand or "gotcha stick," as some call it. This device is used mainly for removing traps from the water and saves an arm from getting wet. It also makes a good wading staff and is helpful in climbing banks—just place the hook around a branch or sapling to pull yourself up. Trappers also use it to smooth out the earth when preparing sets and for breaking thin ice to gain access to traps or to set them.

Easily Constructed

The gotcha stick is easily constructed. All you'll need is a 3- or 4-foot length of broomstick or garden implement handle, a clothesline hook, a 2-inch length of one-inch copper pipe, and a leather thong or piece of nylon cord.

After the stick is cut to length, drill a $\frac{3}{16}$ -inch hole about two inches into the center of one end. Then drive the piece of copper pipe over the wood until the end is flush with the top. If the wood is oversize, trim so the pipe will fit snugly. Next, open the hook about an inch, and screw into the hole.

As your gotcha stick is used, the water will cause the wood to swell and hold the hook more firmly. Round off the other end of the stick and drill a $\frac{1}{4}$ -inch hole through it 6 inches down from the butt. Run the thong or cord through the hole and knot to form a loop to fit over your hand while carrying it.

Some streams are almost devoid of rocks suitable for anchor traps. This can be remedied by transplanting some from nearby. They will also come in handy to steer furbearers toward your traps, and are more natural for this than sticks.

The law requires trappers to tag their traps with name and address, but these are easily removed by trap thieves. However, you can identify your traps by stamping or etching your name, phone number, or social security

number on the bottom of the pan or on the springs of jump traps. On designs such as the Conibear, there is little room for identifying in this manner because there is no suitable surface. In this case, use a 3-cornered file to mark them with a code of your choice. These markings may not stop a trap thief, but they'll make it easier for you to identify your traps if they are stolen.

Scat and fresh tracks are sure signs of furbearers, but to check for current animal activity along a body of water, here's a simple trick that works well. Splash water on sandbars or on the shore to wash away tracks. You'll then be able to observe what was on the prowl the next time you check your traps. This is also an excellent method to use during preseason scouting to determine whether an area will be productive.

When setting or checking traps, walk upstream rather than down. By doing this, water that has been discolored or muddied by walking will always be behind you, thus making it easier to set or locate your traps.

And when working the trapline, why carry your load farther than you have to? Walk to the far end of your line with an empty packbasket and make your way toward your vehicle or base from there. This way you don't have to tote a growing load twice the length of the trapline.

Visegrips

Special tools are utilized to hold a furbearer's head down for pelting. If you are in a pinch for such a tool, try using a pair of visegrips. Simply adjust them so they'll firmly clamp the animal's tail and suspend them by a piece of nylon cord from a rafter in your garage or shed.

To save time when you have a large catch, take your furbearers to the buyer unskinned. Most buyers welcome them like this as they make use of the animal's urine and scent glands.

When setting jump traps, keep the pan well below the spring. In this manner, the jaws will grab the animal's leg up high, since the pan is lower than the jaws. This will reduce the risk of losing your catch.

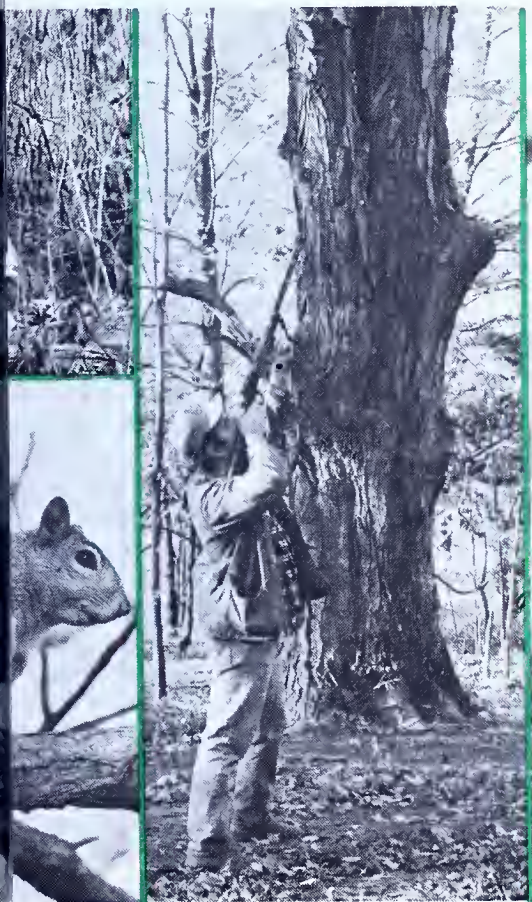


HUNTING THE GRAY

HUNTING THE GRAY squirrel can be a lesson in woodsmanship.

To be regularly successful, you must know his habits, his favorite foods, his favorite trees, his weather likes and dislikes . . . and you must be patient. Few other types of hunting get you quite so deeply into the woodland experience as sitting or still-hunting for squirrels.





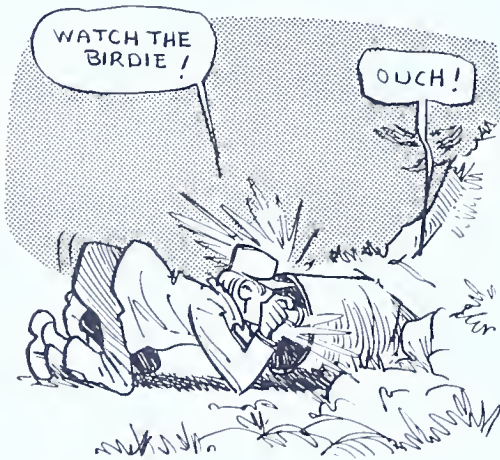


FIELD NOTES



Fair-Weather "Friends"

BLAIR COUNTY—Even though it happens every year, it always amazes me how people react. Twice this year I have been asked to trap and transfer animals that were eating flowers or vegetables, or bothering fowl. In both cases, the complainants are anti-hunting and trapping, *until they are bothered by wildlife!* These people are the first to scream about hunting, and the first to call for help when they have wildlife problems.—DGP Larry Harshaw, Hollidaysburg.



Start Lookin'

BRADFORD COUNTY—Beaver can be a trial in the life of a game protector. Recently, one plugged a small sluice pipe so the water was running across the road in Warren Township. The dam was halfway through the pipe so I couldn't reach it with a hook to tear it out. Luckily my wife is only half my size so she just fit into the pipe and was able to dislodge the dam. She was a little upset when she discovered me taking her picture for use in one of my slide presentations. P.S. If she sees this in print, I may be looking for a new home.—DGP A. Dean Rockwell, Sayre.

Togetherness

BLAIR COUNTY—A common question sportsmen ask about the Game Law is, "When hunting, what distance must I maintain when accompanying a twelve- to fifteen-year-old?" My first reply is, "You should be close enough to prevent the youngster from committing any unsafe acts, from shooting at any game not in season, etc." I then ask, "Why wouldn't you want to be side-by-side with your young companion? After all, what is one of the most important parts of hunting, if not companionship?" For instance, sitting together at a big oak tree waiting for squirrels or deer. Remember, two heads are better than one, and perhaps you may have the thrill of watching your youngster take his first deer. So—take a boy or girl hunting, but by all means hunt close and have a nice day.—DGP Don Martin, Hollidaysburg.

Mobile Home

If, during your wanderings over State Game Lands, you have noticed bits of nesting material peeking out from under the padlocks which secure the iron pipe barricades across the access roads, and have wondered what's happening, we now have the answer. Wrens have discovered that these two-inch steel tubes are perfect nesting sites and have taken them over. We know of seven wren nests in the gates in our area this year. We believe that the eggs in all hatched successfully. These chatty little birds have recognized and taken advantage of our unintentional nesting device program. It is interesting to note that they have scorned a perfectly fine wooden birdhouse at the main gate of SGL 196 in favor of the gate. Or is it that they simply enjoy an occasional free ride when the gate is swung open?—LM William J. Lockett, Perkasio.

Back With More

CLEARFIELD COUNTY—Last summer, ten banded ducklings were released on a pond at the Frank Decker residence in Kellytown; eight survived and left in the fall. Frank is a Special Fish Warden and did a good job of feeding the ducks throughout the months they were on his pond. In mid-June a female duck was observed circling the pond at dusk on three successive evenings. On the fourth day she was seen on the pond with six fuzzy little ducklings clustered about her. Where she had her nest is anybody's guess. The nearest body of water is Clearfield Creek, almost two miles away.—DGP Jack Furlong, Ramey.

Listen Next Time

MCKEAN COUNTY—Children from the Portville school district in New York have found out that maybe their teachers were right. They told the children not to take any goodies with them on their week-long campout at the Boy Scout camp outside Smethport. The 135 youngsters had arrived at camp around noon and started settling into camp life, when several children decided to lay their beef jerky on top of their tent to dry. At 4 o'clock Mr. Bruin, weighing about 400 pounds, arrived to check out the aroma. He personally checked each and every tent in both campsites. Total damage: one torn wall tent; about three weeks' supply of popcorn, potato chips and pretzels that had been hidden in the tents; two cans of beef jerky; one can of foot spray; ten excited schoolteachers, and 135 panicked children. After we eliminated the goodies from the tents, the bear never came back.—DGP Denver McDowell, Smethport.

. . . But Not That Way

BEAVER COUNTY—While inspecting Game Lands 285 I came upon two garbage bags that were completely filled. On the bags was a logo which read "Keep New Brighton Clean."—DGP G. T. Szilvasi, Midland.

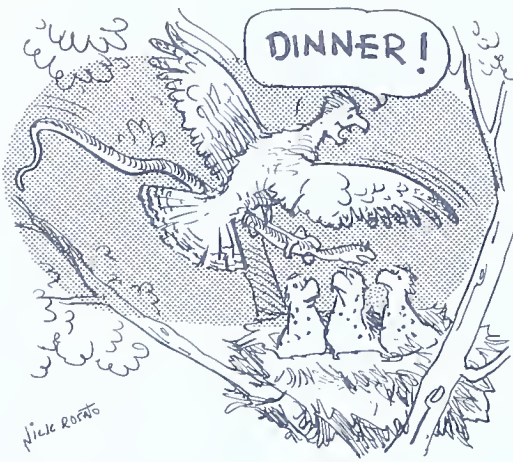


Big-Eyed Bomber

CUMBERLAND COUNTY—During the past month Deputy Charlie Lohry answered a complaint about an over-protective mother screech owl. It seems that anyone who ventured near the owl family's dead tree home was promptly dive-bombed. Mechanicsburg Policeman Mike Norris, who was assisting Deputy Lohry, had his hat removed by this feathered menace. They agreed that a steel helmet was in order in the immediate area of the owl home. A local resident solved the problem by carrying an umbrella over his head when he walked from the store to his home.—DGP Jim Filkosky, Mechanicsburg.

Woods? What Woods?

LUZERNE COUNTY—Most people envy the conservation officer, especially during the summer months, believing he's being paid for working in the woods. They're completely unaware that he spends most of his time in his vehicle going from one complaint to the next; from one roadkilled deer to the next, hoping this one isn't as badly decomposed as the last. I'm sure this was the case recently when I stopped for a quick breakfast special, and in 20 minutes four different gentlemen stopped to ask questions. I sensed they were thinking I really had it made. They'd have had second thoughts if they had spent the rest of that morning with me!—DGP Bob Nolf, Conyngham.



Parental Care

WESTMORELAND COUNTY—Birds of prey are extremely interesting. During May I was privileged to observe a pair of barred owls looking after a single youngster who was in the process of trying his new wings. Each time I approached the young, I was sternly warned by both parents, who called and clacked their beaks. Later in the month, I observed for the first time an adult red-winged hawk flying with a large snake in its talons. This was probably lunch for its nest of young.—DGP T. C. Flanigan, Mt. Pleasant.

Plenty for Sharing

CLINTON COUNTY—I actually had a few people complain about an osprey eating some trout along Kettle Creek. There are thirty-two miles of this stream in my district and it was stocked with tens of thousands of trout, but this was the only osprey sighted in the area this year.—DGP John Wasserman, Renovo.

Tangible

MIFFLIN COUNTY—An area farmer received a rather pleasant surprise recently when a local sportsman handed him \$30. The sportsman just wanted to express his thanks because the deer were utilizing the farmer's unharvested corn during the hard winter of 1977-78.—DGP Tim Marks, Belleville.

Don't Gig the Geese

SCHUYLKILL COUNTY—An Andreas resident called and told me he'd observed three boys chasing a Canada goose and goslings down Lizard Creek. He claimed one of the boys was throwing a frog gig at the geese. I located the boys. One had a frog gig, the second had a crude fishing pole made from a tree branch, and the third had some wild onions they'd gathered. They said they were part of a scout group in the area, out on survival training. Their scoutmaster had dropped off groups of boys at various locations and they were to work their way back to camp while foraging for food. I returned the boys to their scoutmaster and informed him of what the boys were doing and that frogs did not come in season for two more weeks. Now, I have the utmost respect for any persons who will donate their time to work with youngsters, but I often wish they would become more familiar with the laws and regulations concerning wildlife and conservation.—DGP Stephen L. Opet, Tamaqua.

Not Extraordinary

CLARION COUNTY—During my first couple of years as a game protector, many of my Field Notes were published, but only one has appeared in the past year. The "extraordinary" has become the ordinary, and the unusual, the usual. In the past month I have spent countless hours in the fields and forests, both on snowshoes and without snowshoes, with snow and without snow. I have seen deep snow, ice jams, floods, brush fires and the new wheat coming up. I have observed hundreds of deer, flocks of swans, geese, hawks, owls, raccoons, skunks, beaver, fox; a long list of small birds and animals; and have talked to sheriffs, judges, state policemen, businessmen, farmers, and school kids. Just another ordinary month as a game protector. Guess if I want a Field Note printed, I'll just have to stop waiting for "extraordinary" things.—DGP Gordon J. Couillard, Clarion.



Want it Sterile

CRAWFORD COUNTY—People are moving out from the cities into the country at an alarming rate to “enjoy the benefits of country living.” But no sooner do they get into the country than their complaints begin about the wild animals, which are also a part of country living. Can’t help but wonder why these people moved to the country in the first place.—DGP Willis Sneath, Paegertown.

With Real Hungry Rabbits

SNYDER COUNTY—I was working with DGP Bernie Schmader of Union County on some damage complaint problems one day this summer. After finishing our work, we were standing outside his office looking at his apple trees. I noticed the young trees were not in bloom or leafed out. Nonchalantly I asked what the problem was. Since he was an “expert” on animal damage control, I expected his answer would be related to a disease problem. But Bernie responded, “Rabbits got ‘em last winter.” So you see, game protectors are real people, the same as you.—DGP Dave Myers, Selinsgrove.

Tough

VENANGO COUNTY—Were you wondering last February if there would be a wild turkey left in Penn’s Woods? Many turkey broods were sighted this summer. What a magnificent, hardy bird!—DGP Leo Yahner, Franklin.

Lament

MONTGOMERY COUNTY—They keep building up my district and soon I’ll have no fields left to note—nor will the wildlife.—DGP William Wasserman, Lansdale.

Is This for Real?

WASHINGTON COUNTY—My wife received a call from a gentleman who claimed he was a member of the Bird Listeners of England. He had seen a bird that looked like a hybrid of an eagle, falcon, nightingale and pigeon. He believed the Game Commission had been “fooling around with nature” and wanted us to stop. He claimed the bird had been dive-bombing trees and screaming in his yard. I just wondered if some of our falconers would be interested in our little secret.—DGP William P. Anderson, Washington.



Ulp!

CAMBRIA COUNTY—Charles Harpster of Ebensburg got a double surprise recently while fishing Rays-town Lake. He was lucky enough to land a large bass and placed it in the live catch of the boat. Shortly after being placed there, the bass coughed up a whole bat. This caused much guessing among the trio of fishermen as to how it got there. One possible answer: maybe the bass and the bat went for an insect near the surface of the water and both got more than they bargained for.—DGP Daniel W. Jenkins, Patton.

Baby Stolen

SOMERSET COUNTY—Daughter without mother's love almost a year. Kidnapper has turned this year-old baby loose in the wild with a red leather collar around its neck. Its brothers and sisters will have nothing to do with it, nor will the cattle in the farmer's field. This young deer doesn't trust humans, nor is it afraid of them. The humans that come in contact with the deer fear it may injure their children. Now we have the chore of catching this deer before it hangs itself, or is killed by free roaming dogs, or hurts someone. **LEAVE THEM IN THE WILD.** (Final Note: Mission was accomplished).—DGP J. Burns, Jr., Central City.



Water's Fine . . . Heh, Heh!

BRADFORD COUNTY—While on vacation in Florida, I had the opportunity to talk with a conservation officer there. Though we work 1600 miles apart, we still have the same problems. The major difference was that while I have problems with bears, his are with alligators. It was a treat to see 'gators crossing the main highways and floating around on nearly every pond. However, if I were trying to move them, I would probably feel as he did about them. The only time I didn't care to see a 'gator was when I hit my golf ball into the water and had to leave it there because the old 'gator was lying in wait for someone foolish enough to wade in!—DGP Edward Gallew, Wyalusing.

Warning: Traspassers Will Be Electrocuted

ERIE COUNTY—Recently, a squirrel became tangled in some high voltage wires at a substation near Erie, interrupting service to approximately 1500 people. The squirrel paid the supreme penalty for trespassing: he (she?) was electrocuted.—DGP Andy Martin, Erie.

Well, It's a Bird

POTTER COUNTY—Recently, Donna Norquist of Galeton called and reported that a baby heron was running loose near the shopping plaza and Lush's store in Galeton. Investigation revealed an immature green heron huddled in the corner, confused. I took it to Pine Creek and released it unharmed. Just after catching the heron, I overheard one fellow remarking that he had observed the bird and identified it as a baby turkey. I could tell from his observations that he didn't belong to the Audubon Society.—DGP Ron Clouser, Galeton.

Surprise Party

HUNTINGDON COUNTY—On June 23, Thomas Newman, of Waterfall, was working on a cable television antenna system located on top of Jack's Mountain on State Game Lands 99. He thought it rather strange to hear the brush cracking and someone walking toward the building, since he was approximately a mile inside the Game Lands gate and hunting season was not in progress. Tom received quite a surprise when he went to the door of the building and was met by a very large black bear.—DGP Don Adams, Saltillo.

Good Sign

CUMBERLAND COUNTY—The number of nesting birds of prey observed this year has greatly increased. The ban on pesticides must be doing its intended job.—DGP Eugene Utech, Boiling Springs.

1978 Waterfowl Seasons Set

By Ted Godshall

WATERFOWL SEASONS and bag limits for 1978 have been established by the Pennsylvania Game Commission within frameworks set up by the U.S. Fish and Wildlife Service.

The waterfowl seasons will start one week later this year than in 1977. There will again be a split season on ducks, with the first segment opening at noon on a Wednesday, and the second segment opening one-half hour before sunrise on a Wednesday. The season on snow and blue geese will run concurrently with the Canada goose season.

There will again be only one statewide season for Canada geese this year. However, there will again be an additional winter season on these birds in southeastern Pennsylvania.

There will be two minor changes this year concerning shotgun loads used in waterfowl hunting. The first change is in the maximum shot size that may be used. This year hunters may use shot size up to and including No. 1. (The maximum shot size a year ago had been No. 2.)

Second Change

The second change involves the area along the Susquehanna River where steel shot must be used for hunting waterfowl with a 12 gauge shotgun. The distance has been reduced to 25 yards from the river, between Northumberland and the Maryland line. Last year, the steel shot zone along the river extended back 150 yards from the shoreline.

Waterfowl hunters using 12 gauge shotguns must also use steel shot in



THERE WILL BE only one statewide season for Canada geese this year. However, there will be an additional winter season on these birds in a designated part of southeastern Pennsylvania.

Crawford County and at the Middle Creek Wildlife Management Area in Lebanon and Lancaster Counties.

The initial season for ducks, sea ducks, coots and mergansers will open at noon on Wednesday, October 11, and close at sunset on Saturday, October 21. The second season for these species opens one-half hour before sunrise on Wednesday, November 1, and closes at sunset on Saturday, December 9.

The statewide Canada goose season opens at noon on Wednesday, October 11, and closes at sunset on Tuesday, December 19. Because of larger goose populations and increasing conflicts between geese and humans, an additional winter period of Canada goose hunting will be permitted from



December 26 through January 13 in the area south of Route 22 and east of Interstate Route 83.

The daily bag limit for ducks will again be 4, with a possession limit of 8 after the first day. Hunters this year may again take 15 coots daily, with a possession limit of 30. The 1978 bag limit on mergansers remains at 5 daily and 10 in possession.

Not more than 2 wood ducks may be taken per day, and a person may not have more than 2 woodies in possession at any time.

Not more than 2 black ducks may be taken daily this year, and a hunter may not possess more than 4 black ducks.

Although the daily limit on mergansers is 5 with a possession limit of 10, not more than one hooded merganser may be taken daily, and the possession limit on hooded mergansers is 2.

This year a hunter may again take either one canvasback or one redhead duck daily. The possession limit will be either one canvasback or one redhead. If a hunter has taken or possesses a canvasback, the hunter may not take or possess a redhead, and if the hunter takes or possesses a redhead, no canvasback may be taken or possessed.

During the regular duck season, hunters may take 2 scaup daily in addition to the regular duck limit, but only

on the waters of Lake Erie and Presque Isle Bay. The possession limit on the extra scaup is 4.

Three Canada geese may be taken per day, except in Butler, Crawford, Erie and Mercer Counties and at Middle Creek, where the daily limit is one. The possession limit on Canada geese will be 6 after the first day of the season.

The daily bag limit on snow and/or blue geese will be 2, with a possession limit of 4. Hunters may again take 7 sea ducks daily, with no more than 14 in possession after the first day of the season.

Shooting will begin at the Middle Creek Wildlife Management Area on Thursday, October 12, and at the Pymatuning Waterfowl Area in Crawford County on October 13.

On the opening day of the regular small game season (Saturday, October 28), it will be unlawful to take any wild birds or any wild animals, migratory or otherwise, before 9 a.m.

Otherwise, regular waterfowl hunting hours will be from one-half hour before sunrise until sunset, except at the Pymatuning Waterfowl and Middle Creek Wildlife Management Areas, where hunting is permitted only from one-half hour before sunrise to 12 o'clock noon on regularly scheduled shooting days.

New Hiking Trails in Northwest

Hikers have three new trails on the Allegheny National Forest. All three form loops, so that hikers don't have to double back over the same trail to return to their cars. The 12-mile Hickory Creek Trail begins at Hearts Content picnic area; 11½-mile Rimrock-Morrison Trail begins ¾ mile east of the Rimrock Overlook entrance road; and 15-mile Mill Creek Trail begins at Twin Lakes Recreation Area, looping around to join the Twin Lakes Trail. A connecting trail midway through the loop allows a shorter hike on Mill Creek. For more information, call the appropriate District Ranger: Hickory Creek—Sheffield (814-968-3232); Rimrock-Morrison—Bradford (814-362-4613); Mill Creek—Ridgway (814-776-6172).

Nonresident Hunting License Fee

Each year we run a hunting license application form in the September issue. When last month's magazine went to the printer, it was not known whether there would be a change in the nonresident fee, so that part of the application form was blank. **THERE HAS BEEN NO CHANGE IN THE FEE.** The cost of a nonresident Pennsylvania hunting license for the 1978 season is \$40.35.

SPECIES	First Day	Last Day	Limits		SHOOTING HOURS
			12	24	
DOVES	Sept. 1	Nov. 9	25**	30	One-half hour before sunrise to sunset (except on October 28, when the opening hour will be 9 a.m.).
*RAILS (Sora and Virginia) ..	Sept. 1	Nov. 9	25**	16	
GALLINULES	Sept. 1	Nov. 9	15	10	
WILSON'S or JACKSNIFE	Oct. 14	Dec. 16	8		
WOODCOCK	Oct. 14	Dec. 16	5		
*No open season on other species of rails.					
**Singly or in the aggregate of species.					

DUCKS	Oct. 11	Oct. 21	4 ^(a)	8 ^(a)	One-half hour before sunrise to sunset. Exceptions: 1. Noon until sunset on October 11. 2. 9 a.m. until sunset on October 28. 3. Controlled shooting sections of Pymatuning Waterfowl Area: 9 a.m. until noon on October 28; on other shooting days (Mondays, Wednesdays, Fridays and Saturdays), one-half hour before sunrise to 12 noon. 4. Controlled shooting section of Middle Creek Wildlife Management Area: One-half hour before sunrise to 12 noon on Mondays, Tuesdays, Thursdays and Saturdays.
SEA DUCKS (Scoter, Eider and Oldsquaw)	Oct. 11	Oct. 21	7 ^(b)	14 ^(b)	
COOTS	Nov. 1	Dec. 9	15	30	
MERGANSERS	Nov. 1	Dec. 9	5 ^(c)	10 ^(c)	
CANADA GEESE	Oct. 11	Dec. 19	3 ^(d)	6	One-half hour before sunrise to 12 noon on Mondays, Tuesdays, Thursdays and Saturdays.
SNOW and BLUE GEESE ..	Dec. 26 ^(e)	Jan. 13 ^(e)	2	4	

Exceptions:
^(a)Daily bag limit of 4 ducks may not include more than: 2 black ducks, 2 wood ducks, 1 canvasback or 1 redhead; maximum possession limit may not include more than 4 black ducks, 2 wood ducks, 1 canvasback or 1 redhead.
^(b)Singly or in the aggregate of species and does not count in the daily or possession limits of ducks.
^(c)Not more than 1 hooded merganser daily; possession limit of 2.
^(d)Daily limit of 1 goose in Butler, Crawford, Erie and Mercer counties and at Middle Creek Wildlife Management Area.
^(e)Only in that portion of Pennsylvania south of Route 22 and east of Interstate Route 83.
 Extra Sculp: Restricted to waters of Lake Erie and Presque Isle Bay; daily bag limit of 2 and possession limit of 4 in addition to above duck daily bag and possession limits during regular duck season.

ON THE OPENING DAY OF SMALL GAME SEASON, SATURDAY, OCTOBER 28, 1978, IT IS UNLAWFUL TO HUNT ANY WILD BIRD OR WILD ANIMAL, INCLUDING MIGRATORY GAME, ANYWHERE IN PENNSYLVANIA—PRIOR TO 9 A.M. SUNDAY HUNTING PROHIBITED. (NO OPEN SEASON—BRANT AND SWANS.)

MIGRATORY BIRD HUNTING METHODS—Permitted: Dogs; artificial decoys; longbow and arrow; shotgun not larger than 10 gauge and incapable of holding more than 3 shells; shot size no larger than No. 1; bird calls, except recorded or electrically amplified calls or sounds or recorded or electrically amplified imitations of bird calls or sounds; blinds; floating craft (except sinkbox) including those propelled by motor, sail and wind, or both, when the motor of the craft has been completely shut off and/or the sails furlled, as the case may be, its progress therefrom has ceased, and it is drifting, beached, moored, resting at anchor or is being propelled by paddle, oars or pole, or if the craft is used solely as a means of picking up dead or injured birds. **Prohibited:** Trap, snare, net, crossbow, rifle, pistol or revolver, swivel gun or machinegun; shotguns capable of holding more than three shells unless gun is plugged to 3-shot capacity so that plug cannot be removed without disassembling gun; shot size larger than No. 1; sinkbox, motor-driven conveyance, motor vehicle or aircraft; shooting from motorboat or craft under power; live decoys; recorded or electrically amplified bird calls or sounds or imitations thereof; motor-driven land, water or air conveyance or sailboat used for the purpose of or resulting in concentrating, driving, rallying, or stirring up migratory birds or waterfowl; salt or bait. No person may possess or transport more than the daily bag limit or aggregate daily bag limit, whichever applies, of migratory game birds, tagged or not tagged, at or between place where taken and either (1) his or her automobile or principal means of land transportation, or (2) his or her personal abode or temporary or transient place of lodging; or (3) a migratory bird preservation facility (including a taxidermist); or (4) post office or common carrier facility, whichever one he or she arrives at first. *Steel shot* must be used while hunting ducks, geese and/or coots with a 12 gauge shotgun in Crawford County, at the Middle Creek Wildlife Management Area, and on the Susquehanna River and the area within 25 yards of the Susquehanna River between Northumberland and the Maryland line.

FEDERAL STAMP FOR MIGRATORY BIRD HUNTING—No person who has attained the age of 16 years shall take any migratory waterfowl (ducks, sea ducks, mergansers, geese) unless at the time of such taking he or she has on his or her person an unexpired Federal Migratory Bird Hunting Stamp (duck stamp), validated by his or her signature written across the face of the stamp in ink. A person who has not reached his or her 16th birthday does not have to have a stamp. This stamp is not required to hunt doves, rails, gallinules, woodcock, coots or Wilson's or jacksnipe. Federal Migratory Bird Hunting Stamp available at U.S. Post Offices.

NOTE: One fully feathered wing or the head must remain attached to each migratory bird (except doves) while being transported. Migratory game birds left in the custody of a person other than the owner must have a tag attached, signed by the hunter, stating his or her address, the total number and species of birds and the date such birds were killed.

Prosecutions and Fines Set Records

Game protectors in Pennsylvania last year prosecuted a record number of persons, and penalties collected also established a new record. In 1977 there were 11,387 prosecutions for violations of the Game Law. Penalties collected totaled \$533,905, the first time the figure has exceeded the half-million-dollar mark.

Of last year's 11,387 prosecutions, 11,308 cases were settled and game protectors were successful in 11,005 cases. This means the Game Commission's conviction rate was over 97.3 percent. The remaining 79 cases were not concluded prior to the end of the year.

The prosecutions also led to the revocation by the Game Commission of hunting and trapping license privileges of 1,177 persons for serious Game Law violations. A review of the prosecutions indicates many violators probably would ignore game regulations if only a cash penalty were imposed. The loss of hunting license is of major concern to most offenders, and it is clear that the

threat of license revocation is one of the biggest deterrents to those who would violate the law.

A look at prosecutions over the past three decades shows a steady increase in the number of violators apprehended. In 1947, there were 4,036 prosecutions, and fines totaled \$132,895. Prosecutions climbed to the 5,000 level by the early 1950s and reached the 8,000 mark by 1965. By 1972, prosecutions numbered over 9,000.

While the number of hunters increased about 50 percent from 1947 (when about 850,000 licenses were sold) to 1977 (when there were about 1.25 million hunters), the number of prosecutions jumped about 275 percent, despite the fact that the number of game protectors enforcing the law has remained almost constant during that 30-year period. It is also evident from comments by the violators that there is a continuing growth in disrespect for the law. This attitude should be a matter of concern to all.

Books in Brief . . .

(Order from publisher, not from Game Commission)

The Canoe Book, by I. Herbert Gordon, McGraw-Hill, 1221 Avenue of the Americas, NYC, 10020, 238 pp., paperbound, \$6.95. A guidebook for both novice and veteran, contains such basics as bow and stern strokes and then moves on to advance techniques for whitewater maneuvers, including data on how to "read" rapids and river flow. Also covers canoe structure, safety, gear, emergency rescues, first aid, and wilderness canoeing, including navigation to planning meals.

Bill Ferris Writes from His Columns . . . Shippensburg Outdoors. This is a nice collection of Bill's outdoor columns, done for *The News-Chronicle*. Based on his observations while hunting and fishing in the famed Cumberland Valley, it's highly readable stuff. From Bill Ferris, RD 2, Shippensburg, Pa. 17257, 36 pp. paperbound, \$2.

Wild, Wild Woman, by Maggie Nichols, Berkley Publishing Co., 200 Madison Ave., NYC 10016, 258 pp., paperbound, \$4.95. Besides enjoying everything about the outdoors—even the miseries—Maggie Nichols, assistant managing editor of *Field & Stream*, scribbles up a storm about it. We'd be hard put to name another outdoor writer who has laid everything on the line as readably as Maggie. She's somehow found time to get into camping, shooting, fishing, canoeing, jeeping, ballooning, snowshoeing, skiing, etc., etc. She recognizes the truth about all of them and tells it. Sometimes she answers questions few people have the nerve to ask. Anyone interested in an honest woman's view of the outdoors ought to read this one.

Cooperators Needed for Grouse Survey

The Pennsylvania Game Commission is expanding its study of grouse and grouse hunting activity in the state, and needs additional cooperators to provide more data.

In addition to needing hunters to keep records of the number of hours they hunt and the number of times they flush grouse, as has been done in the past, the Game Commission now needs cooperators to submit wings and tail feathers of birds bagged.

By examining and measuring wings and tail feathers, Game Commission biologists can determine what the breeding success was, when the young birds hatched, the ratio of hens to cockbirds, and much additional information to help formulate better management plans for future years.

Grouse hunters who are willing to assist in this program are encouraged to contact Game Biologist Steve Lisinsky, 623 S. Fraser Street, State College, Pa. 16801. Volunteers for the program will be sent specially designed envelopes for submitting wings and feathers and pocket cards for tallying grouse flushed.

A summary of the information collected will be sent to all cooperators at a later date.

25-Year Club

Pennsylvania Game Commission personnel have compiled an enviable record among public and conservation agencies for longevity of service. Few organizations in any area of endeavor can boast so many dedicated employees. The most recent PGC employee to complete 25 years of service is shown here.



Gerald D. Kirkpatrick
Ass't Chief, Law Enforcement
Harrisburg

Gun Digest, 33rd Edition

The latest edition of this big gun publication is perhaps the best yet. As always, Editor John Amber has included something for everyone in the shooting field. The lead article, Donald Simmons' "Remington Model 51," is an in-depth presentation on the highest quality and safest pocket pistol ever made. It's followed by Amber's own piece on the Browning Centennial models announced for the 100th anniversary of John M. Browning's first creation. Notable among these is the Continental. Built on the Browning Superposed action, it has one set of 20-gauge barrels, a second set of 30-06 tubes. Four dozen other feature articles cover subjects as diverse as "Crosswind Deflections—a Cast Bullet Anomaly," by Ken Waters, "The Gatling Gun," by Lisle Reedstrom, "Electronic Night Sight," by James D. Mason, "The Hunting Rifle Stock," by Bob Hagel, "The Sleeping Bag," by Bob Bell, and "Hornady's Frontier Ammo," by Jon Sundra. In addition, an extensive catalog illustrates and gives specs on hundreds of American and foreign firearms. (*Gun Digest, 33rd Edition*, edited by John T. Amber, DBI Books, Inc., 540 Frontage Road, Northfield, Ill. 60093, large format, paperbound, 448 pp., \$9.95.)

Officers Host Big Brother Group

By Wes Bower

CIA, Southcentral Division



BIG BROTHERS Ed Myers, Keith Saleme and Deputy Helmut Hornung help two Little Brothers with their birdhouses during Blair County field day.

HOW DO THE youth of Blair County feel about conservation officers? There was no question about their sentiments after participating in a recent day-long outdoor experience.

Deputy game protectors and special waterways patrolmen of Blair County joined with the Hollidaysburg Consolidated Sportsmen Club to host a field day for seventy youngsters and their "big brothers."

The youngsters were given an opportunity to participate in numerous outdoor activities including small-bore target shooting, skeet shooting, fly tying, casting, trapping and archery, as well as receiving information on the fundamentals of fishing. The big brothers also participated in many of the events.

The boys, ages 7 through 14, each completed a bluebird house to take home with them. For nearly two months previous to the Saturday affair, Deputy Helmut "Spike" Hornung salvaged lumber from a local industrial plant and made birdhouse kits which the kids could complete.

The Blair County Conservation Association is just completing its first year on its charter. The association is made up of deputy game protectors and special waterways patrolmen from Blair County and surrounding areas. The group wanted to do something worthwhile for the youngsters of the community by teaching them to promote good conservation practices. This "spring fling" was so successful that they plan to soon introduce another similar program.

District Game Protector Larry Harshaw and Waterways Patrolman Walt Rosser also were present for the day-long program.

Otherwise It Would Be "Cowfrog"

"Bullfrog" refers to a specific species of large frog. The sex of the animal is not involved in the name; so the female is also a bullfrog.

Probably Eats With a Straw

The mouth of the sea dragon is so small that it cannot harm other fishes or even defend himself from enemies.

Likes to Look Around

The praying mantis is said to be the only insect that can turn its head.

Roadkills on Three Highways in July

By Thomas E. Long, Rosann Moore and Kristine Sefchick

THE AUTHORS, a professor and two secretaries at Penn State University, used commuting time during a one-month period to survey roadkilled animals on three highways. One traveled 35 miles between Lewistown and Penn State on Route 322, through the Seven Mountains area. Twenty-five miles of that trip was over a four-lane, limited-access, fenced road, the remaining 10 miles over a two-lane road. The second commuter drove from Houtzdale over Routes 322 and 53. That trip covered 36 miles and passed through mountain and farm land, with only 5½ miles of fenced four-lane roadway. The third com-

muter from Altoona, but tallied roadkills only between Altoona and Port Matilda, as the routes of two investigators merged there and the kills from Port Matilda to the University were recorded by the commuter from Houtzdale. The Altoona commuter drove a distance of 30 miles over Route 220 through an area devoted to agriculture. Only eight miles of this was four-lane, limited-access, fenced roadway. The routes of all three investigators were similar in length, none bordered major waterways, and no large adjacent areas were devoted to business or industrial activities.

Species	Houtzdale (36 miles)	Lewistown (35 miles)	Altoona (30 miles)	Total
Rabbit	21	12	32	65
Opossum	9	2	9	20
Deer	1	0	3	4
Skunk	3	2	6	11
Chipmunk	1	0	3	4
Fox	0	0	1 (kit)	1
Raccoon	4	1	6	11
Turtle	0	0	1	1
Snake	1	1	1	3
Squirrel	0	4	2	6
Mouse/Rat	1	0	0	1
Groundhog	5	3	3	11
Porcupine	1	0	0	1
Dog	2	1	3	6
Cat	3	4	2	9
Songbirds	18	7	9	34
Unidentifiable	9	5	11	25
Totals	79	42	92	213

Doing Things the Hard Way

The starfish eats oysters in the shell. It pulls the bivalve open with its suction tentacles, then turns its own stomach inside out to digest the treat.

In No Hurry

The eyes of black bear cubs don't open until the cubs are about forty days old.



WOODLAND THOUGHTS

BY LOU HOFFMAN

Wildlife Education Specialist

Putting together Woodland Thoughts is fun. Recalling the things I've seen and the places I've been makes me glad I'm a Pennsylvanian. There's no place I'd rather call home. Crisscrossing the Commonwealth reveals some fine country. In the southwest corner the rolling ridges of Green County cloak some of the best grouse range around. And at the other end, catty-corner, more of that green is bathed in bogs and marshes which form the stronghold for our bears and the playground of the otters. In the northwest is the lake country of Erie, one of the waterfowl capitals of the whole northwest. Down southeast way, despite its millions of people, Philadelphia has Tinicum Marsh where wild things give the city resident a pleasant escape from "urbanitis."

In between are all kinds of hills and hollows which make up the homes of more wild creatures than I have room to

comment on. Those places have unraveled the events I've talked about in Woodland Thoughts. Each one happened at some time. None is fictitious. Some were rearranged to form a sequence not in line with my observations, but they all happened and gave me a feeling of what our natural world is all about.

October always gives more than her share. I suspect it's because she paints her ridges in yellows, golds and scarlets. And then she drapes her evening skies with pink backdropped with blue. Looking back through my log, I pulled some highlights of past Octobers to share with you. There's no order for them and, though they are personal, there's nothing private about them. For me they sparked some thoughts that condensed like dew which trickled through my mind. Maybe they'll do that for you, too. Some happened while hunting. Others just happened.

Cumberland County

Our backyards are overlooked more often than not, and living in the Cumberland Valley, Octobers have presented more than I've noticed, I'm sure. But there was one Saturday that I recall vividly.

I stashed myself inside a clump of silky dogwoods alongside the Yellow Breeches. Seven decoys rocked in the current twenty yards away, and I settled back to test their effectiveness. About that time a myrtle warbler dropped in to feed on the purplish,

pea-shaped dogwood fruits. He inched out along the branch, tilting it streamward. Everything seemed to take so long, and I marveled at what he could do without hands. Grasping a fruit in his beak, he returned to a more sturdy rest where he started tenderizing his prize. I can't recall ever seeing another bird act so daintily. Just as I expected him to swallow the fruit, he dropped it, leaving nothing to show for his work.

Three more attempts all resulted in the same ending. I couldn't believe his patience. But hunger overcame his persistence and he moved on. From

three feet, I really enjoyed that little how. Between the warbler and a scolding kingfisher that regularly strafed my blind, it certainly was a memorable morning.

Huntingdon County

Seven years ago I trudged along a hillside in Huntingdon County. I wasn't moving quietly. In fact, my feet were shuffling through the understory like a kid wading through leaves in a park. Although it was late October, most of the leaves were still hanging on. Since they were predominately oaks on that slope, their drab brown didn't do much to color the setting, but they did help muffle the sounds from Shaver Creek which snaked through the bottom off to my right. It was one of those good afternoons to be out.

Suddenly, directly in front of me at thirty yards, a buck exploded from his bed. As he sprinted away, I saw his main beams extended beyond his flanks, and although only a 6-point his lines added a foot or more to his height. He was one of the dozen largest bucks I've ever seen in the wild—and he wasn't a yearling. His nerve, or maybe patience, probably helped get him that far along.

A big buck on an October afternoon sure moves my thoughts.

Potter County

My second home has provided more opportunities for viewing wild things and places than any other. As an 8-year-old, my grandfolks let me tag along to their cabin. And I go back as often as I can. October is my favorite time to be there. On one of those days, I walked into a recently logged-off area near the East Fork.

The sky was clear . . . more like crystal. The air was crisp and a gentle breeze gobbled up any trace of humidity. It was one of those times when you realize how little of our lungs we use. It felt good to fill them.

A woolly bear caterpillar trekked across the trail in a tiny wave of burnt orange and black. Ferns and mushrooms splashed even more color to a

backdrop of spectacular autumn foliage.

Walking out on the clearcut, the colorful canopy gave way to a dome of blue and right in the middle a pair of golden eagles played in the air currents. Some days can't be matched, and that was one of them.

McKean County

One of my initial assignments with the Commission involved collecting motion picture footage of black bears. We were alerted about a hot spot of bear activity in McKean County. Along with our photographer and local game protector, we staked out the site just before dark. One hour passed. Two hours. Nothing.

Finally, around midnight, they started coming. Thirteen bears later I stood watching in disbelief. One sow with four cubs, another sow with three little ones, and four individuals made up a larger tally of bears than I've ever seen in one place anywhere else. And their antics would take pages to describe. What a night.

York County

Octobers wouldn't be fully represented without mention of the ringneck. And York County is second to none for that slow-flying, gaudy, tough-skinned creature. They have given me my most enjoyable days afield.

The fever that goes along with opening day is contagious. It's like a plague. Anticipation soaks every thought and I'm not sure why. In fact, it causes problems. The sheer number of hunters, and the predictable misbehavior of some, is bound to taint sport hunting in the minds of others.

But on the other hand, it is strong evidence of a spirit that few activities can reflect. Pheasants, fall and fellowship. There's no denying any of them and October's got 'em all.

And she's got much more. But words just don't have the impact of winds and woods and fields and streams during this grand month. Go see for yourself. Have a good October.

AS BRIGHT splashes of orange, red and yellow color the countryside, we notice a sharper, crisper feeling to the air. The sky seems bluer, the clouds whiter, and we can feel the brisk sting of an early frost. All of this signifies change, and somehow we find our spirits lifted and sharpened. Change is evident in a game protector's life, too, and the increase in October's duties sharpens his senses for what is to come.

October 1—Just before noon it began raining in earnest, yet the archers had a good opening morning. I checked a couple of deer, including a nice doe taken by a 14-year-old on his first bow hunt.

October 2—Late this afternoon I received a radio call from Deputy Leonard Worden, who had noticed a car with Connecticut license plates parked along the Game Lands. Some arrows lay on the back seat, so Len suspected its occupants might be hunting on Sunday. I drove over and waited. When the men came out of the woods they weren't carrying bows and claimed they were just scouting the area. After they left we walked back along the trail to see if they had hid any hunting equipment in the brush. We didn't find any bows and arrows, but in some weeds beside the trail was a hammer, saw, and bucket of nails. A new tree stand was found farther in. It's illegal to damage trees by building tree stands or using climbers, without written permission from the owner—in this case, the Game Commission.

October 3—Before daybreak I was back and hiding in some brush nearby. Soon after daylight the hunters returned. I watched them try to hide their tools better, all the while joking about outsmarting the game wardens.

Later that morning I drove to the division office to meet Trainee Bob Snouffer. Student officers from the training school live and work with various game protectors around the state during the hunting seasons. After supper Bob filled out his first field receipt when my archery friends came in to pay their fines.

October 4—While student officers are assigned to a game protector, they receive valuable training in all types of activities involved with running a dis-



By Jack Weaver

**District Game Protector
Tioga County**

trict. Today Bob had the opportunity to speak before the Williamson High School ecology class, and this evening he presided over a deputy meeting at my headquarters. Later in the week we are to present a live radio program in Wellsboro.

October 6—The first day of duck season found us hiking back into a beaver dam where there was quite a bit of late shooting last year. We were dressed as hunters so as to blend right in, but after arriving we found ourselves alone on the dam. Since it was too late to walk in to another one, we decided to stay and hunt the remaining half hour or so before quitting time. As it turned out, Trainee Snouffer is a much better wing shot than his present instructor.

October 10—Bob and I had prepared an interesting talk for the Mansfield Lion's Club meeting this evening, but the members were so full of questions about the Game Commission that we just held a good radio session instead. I believe we ended up having a much better meeting this way than if we had stayed with the original program. Later we had to remove a small highway-killed bear from Route 15 near Blossburg. Although cub size this bear was a full adult. Biologist Arnie Hayden removed a tooth bone which researchers can age the animal.

October 12—For the past two days Trainees Bob Snouffer and Skip Littwin, who is temporarily assigned to DGP Bill Hutson in Lycoming County, had their hands full. Bill and I were two of four game protectors assigned to the two-day Lycoming County Junior

conservation Days held at the club grounds in Loyalsock. Some 1900 10th-graders attended the various agencies' programs each day, and Bob and Skip were in the thick of it. By the end of the day we were all talked out.

October 14—A couple of days ago we heard a rumor that a large bear was hit by a truck on Route 14 north of Roaring Branch, but it had disappeared. Today we learned that a bear was killed on that road and that the truck driver who hit it took it with him. We didn't know who the driver was but we did find out he worked for a trucking terminal in Binghamton, N.Y. I called DGP Don Day in Susquehanna County, who promised to investigate. Binghamton is right across the border from him. Later Don reported he found the man and recovered the bear hide. Don also said the man paid the \$400 fine to him on a field receipt.

October 15—Leonard Worden called today with information that certain parties had been hunting raccoons out of season and had the legal skins in their freezers. He also had learned that these men had purchased New York hunting licenses and the season up there opens tonight. Len wasn't sure where they lived, so by the time we managed to locate them and swear out search warrants for three residences, it was late evening. We had to wait for more help as we wanted to search all three homes at the same time. Illegal raccoon hides were found at both homes in Frank Bernstein's district but the residence in mine was clean, although Frank said the person who lived there later admitted he had shot some of the raccoons we found elsewhere.

October 18—This afternoon we put on a fox and raccoon trapping demonstration for members of the Williamson High School Sportsmen's Club. With the high price of furs, it's inevitable that more and more people are becoming interested in trapping.

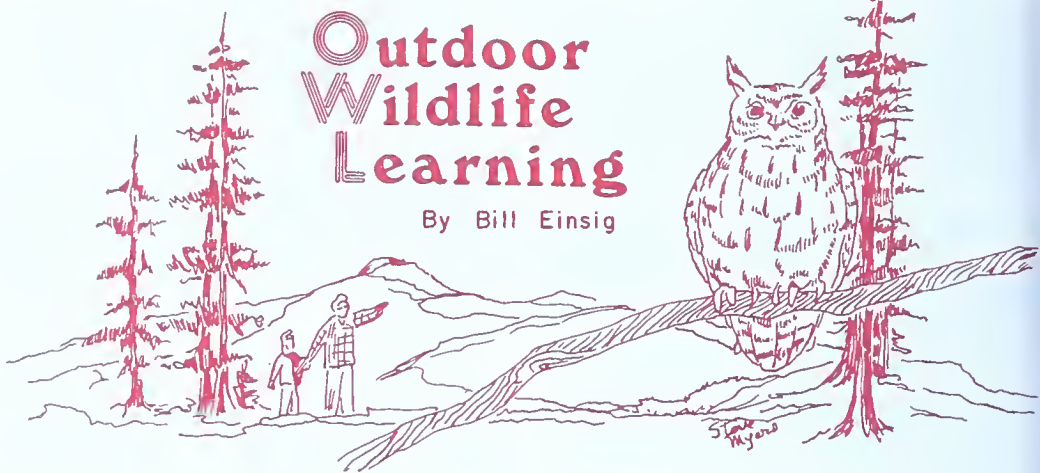
October 19—Bob and I spent today stocking pheasants throughout the district. We are in the hen shooting area, so we receive a lot of hens in these shipments. Still, the addition of the hens has tripled the number of birds allotted to my district, compared

to when we stocked only males. Members of the Williamson High School Sportsmen, supervised by some of my deputies, helped with the stocking.

October 21—It was about 8 p.m. as I eased the Cherokee down a dirt road in Sullivan Township on a general patrol for out-of-season coon hunters. A pickup truck, parked beside a cornfield, loomed ahead. As the county police radio whispered back the registration, I learned the truck belonged to a man who, just this year, had his hunting license restored after I caught him killing raccoons out of season two years ago. I heard hounds baying in the woods on the other side of the field and saw hand lights flickering along behind. Maybe they were just training dogs, but we decided to investigate. As we were picking our way across the muddy corn stubble, the hounds suddenly quit. Apparently they had lost the trail. When we intercepted the party of five hunters, they weren't carrying any raccoons but they did have a scoped 22 rifle as well as several revolvers. Since the suspects were obviously attempting to circumvent the Game Law in order to take raccoons out of season, we decided a citation might encourage them to mend their ways.

October 25—This afternoon I made a trip over to DGP Frank Bernstein's home where we store the bear trap assigned to Tioga County. A bear had raided some beehives. They were empty but nevertheless reeked of freshly drawn honey. In his hearty search of this equipment, the bear destroyed many of the delicate frames and foundations. The property owner wants to shoot the bear, but I set the trap anyway and hope for the best.

October 29—The first day of small game season was pretty quiet. We checked a few hunters here and there. These northern counties are certainly different from downstate on opening day. Here we have to search for hunters to check! In the afternoon my wife called on our base radio to report that some hunters had found an injured doe near Tioga. When we got there the deer was so badly injured I had to finish her off. Examining her closely, we found she was full of fine shot. Apparently somebody wanted a little extra excitement.



Environmental Ed Confab

The Pennsylvania Alliance for Environmental Education is a consortium of interest groups working together for quality education that will insure a healthy, productive but ecologically sound environment for future generations of Pennsylvanians.

The Second Annual Conference and Workshop of the Alliance will focus on the state of EE in Pennsylvania and identify needs in the areas of formal programs on the K-12 and college/in-service levels, legislation, public agencies, non-formal programs offered by organizations, as well as commercial and industrial interests.

Combine all this with good field trips, demonstration activities from national programs like Project Learning Tree, OBIS, Acclimatization, ZPG and Project KARE, with workshops on creative recycling, EE for the handicapped, urban EE, EE endorsements, with how-to-sessions on site development, EE mass media communications, development of resident EE programs and you not only have a valuable weekend—you have *THE HAPPENING* for EE in '78!

So, if you're interested in EE actively or passively, be sure to get your reservation in early. Registration for members costs only \$15, and you can become a member when you sign up for the conference. Site is the beautiful Toftrees Resort near State College. The dates—October 13–15. Lodging accommodations will be up to the individual. For more information and a registration form, contact Lyn Fleming, PAEE Conference Chairperson, Box 334, Stoneboro, Pa. 16153.

Outdoor Classrooms

The early months of fall mean a return to school for millions of students and

teachers. Those first weeks of the new school year are extremely important as students and instructors get to know each other and become comfortable with the mechanics of new courses.

This adjustment period is as important for the teacher as it is for the student. Each must be concerned enough to evaluate the other and to predict what can and cannot be done, what strategies may or may not work, what the tone of the course will be.

For teachers who want to involve their students in studies outdoors, this adjustment period is of critical importance. Too often field trips and outdoor activities are put off until spring—in fact, often until the last week or two of school. Students then see the exercise as a reward, a bit of freedom for suffering through the month that went before, confined inside. Teachers, too, look at these end-of-the-year excursions as a way of loosening up in the home stretch. Usually there is little time and little incentive for more than a superficial look-see and none for a rewarding follow-up.

So, if a class is going to be involved in outdoor studies during the year, teachers should try to incorporate outside activities early and periodically. Students need to understand that the "outside"—whether it be lawn or forest, near or far—is an extension of the classroom. Some teachers, in fact, prefer to think of the classroom as an extension of the outdoors.

But what to do when you're out there? Later in the year, when the students have acquired some background, rather extensive studies can be done on almost any campus of any school. Some adaptations must be made by the teacher to apply activities to the resources at hand and the time. That kind of thing would logically occur later.

Fall activities can be relatively simple. They might be designed to get students

ed to being outside—after all, it's a novel experience for most students and they need time to adjust to the fact that "going to school" does not necessarily mean sitting passively in five straight rows of six desks each.

But even the most brief and general walk around the school should have a well-defined objective so that students don't feel the teacher is just filling time. Rather, the student should know from the teacher's attitude that what's to be done is important—a significant part of the course.

One resource almost always available and easily used at all seasons is soil. Any spot of turf or bare ground can be used in a number of activities that relate well to most subjects and grade levels. Here are a few things you can do tomorrow with little or no preparation.

Percolation Rate

How long does it take for water to percolate through your soil? An easy way to answer this question is to use a can (juice, coffee, etc.) from which the bottom and top have been removed to form a cylinder. Place the cylinder tightly against or pushed into the soil. Pour a known quantity (pint, quart) of water into the can. Record the depth of the water and measure how long it takes for all the water to be absorbed. Compare this rate with that of other soils in the area.

If your ground is hard-pan like most schoolyards, the absorption may be quite slow. In this case, compare the initial depth of water with the depth at specific time intervals (3 min., 5 min., 10 min.).

While you wait for the water to be absorbed, discuss the factors that affect the absorption rate—particle size (texture), air spaces, compaction, organic content and others. Also point out that the ability of soil to absorb and pass water is a prime factor in determining where home sewerage systems can and cannot be installed. Most communities face some sewage problems and this little demonstration touches on a key point in the controversy.

Soil Texture

Are all soil particles the same size? Have students fill jars half full with a soil sample then add water to nearly full. Close and shake vigorously. Upon standing, the suspended soil particles will settle at a rate in relation to their size. Large particles will drop to the bottom immediately, while the smaller clay particles may require hours or even days. This difference in settling rates will produce distinct bands of coarse

(sand), medium (silt) and fine (clay) particles. Measure the thickness of the bands and compare to similar observations of samples collected from various areas—school lawn, flower bed, woods, field, a vegetable patch.

Ask students what effect particle size could have on percolation rate, on air spaces in the soil, on the water holding ability of the soil. A sand dune would be a good example of coarse particles with large air spaces, rapid percolation and poor water holding characteristics. Clay, on the other hand, has minute air spaces, extremely slow percolation, and retains a large amount of water. How would texture affect plant growth? Rate of erosion? What effect would organic matter have on sandy soil? Clay soil?

Organic Content

An important component of soil that should not be overlooked is the organic material in the form of decaying vegetation, animal waste and many others.

After samples have been collected from various areas—and maybe various depths—a small amount (5-10 grams) of soil should be thoroughly dried and accurately weighed. That weight would include the container, mineral particles and organic particles.

Now heat the sample to red hot with a torch for 15-20 minutes to burn off the organic component. Let the sample cool, then reweigh. Most of the organic content should be gone. However, for more accurate results heat, cool and weigh several times until the weight no longer changes. Obviously, this is best done as a demonstration with youngsters, but senior high students should have no problems conducting the test themselves in a properly equipped laboratory.

Put It All Together

Whatever activities you choose, be sure to point out the importance of soil to natural and human communities. Stress that wildlife populations are influenced by soils through the plants that can survive the soil conditions.

Remember, get the kids outside early this year and use the soil to get them thinking about interrelationships. You'll be surprised—your classes might really dig it!

Finally, one little book really stands out as a reference for soil studies on the secondary level—*A Guide to the Study of Soil Ecology*, by W. A. Andrews, et al, Prentice-Hall, Englewood, N.J. 07632, hard cover \$10, paperback \$6.60. Order several; you'll want one of your own.

Thornapples



Chuck Fergus

I HAVE a friend who fights rear-guard battles. He fights them against a foe that is strong, tireless, and implacable, and doesn't even know it's in a fight.

The foe is you.

It's you, your wife or husband, me, the nextdoor neighbor, the neighbor's infant son, the smiling bride-to-be on the wedding page of your daily newspaper.

My friend is Carl Schwartz, and he's a biologist for the U.S. Fish and Wildlife Service.

Carl's job is to evaluate the effects on fish and wildlife of certain projects undertaken by our expanding society. These include dredging swamps, filling estuaries, draining marshes, and building highways, housing developments, power plants, dams, docks, bridges, marinas, canals, and a host of other things.

Carl's office reviews construction funded by the federal government, including Army Corps of Engineers and Soil Conservation Service projects. Carl himself pores over environmental impact statements, talks to planners, and visits building sites. Most construction he examines spells destruction for wildlife; Carl recommends against this, but much gets pushed through anyway. And because the projects are, in a practical sense, cumulative and irreversible, Carl finds himself fighting rearguard battles in a delaying action that has no end in sight.

Like many Pennsylvanians, Carl is of German descent. He's 28 years old, stocky, with a broad face that stays impassive until he gets to know you. He's something of a cynic—not too surprising, considering the futility of much of his work—and mistrustful of lawyers, politicians, most institutions, and the wisdom of the common man. Wearing a completely straight face, he can come at you with euphemistic jargon, and acronyms in the best bureaucratic style, even though he believes in plain speaking and straight talk.

I know Carl from hunting with him. We've shared good days in the field more than a few in nearby Bald Eagle Valley—a valley that is increasingly threatened by our swelling society, the foe, you and me.

Bald Eagle is a long valley, perhaps 70 miles. It starts north of Altoona where it drains the upper reaches of the Little Juniata River, runs northeast to the headwaters of Bald Eagle Creek, then stretches to Lock Haven, where Bald Eagle Creek meets the Susquehanna's West Branch.

The valley holds a few small towns, narrow offshoot gaps that taper north to the Allegheny Plateau, a good number of deer, grouse, woodcock, thornapple trees, and grapevines . . . and a highway called U.S. Route 220.

And 220 is the focus. It brings together Carl, you, me—and our values, attitudes, and philosophies.

Two Lane

At present, the Bald Eagle segment of 220 is two-lane. It keeps north of the creek, passing pockets of the usual rural clutter—gas stations, houses, diners—but shrugging these off and slanting through fields and floodplain brush where it seems to have struck a kind of truce with the land.

However, if the developers have their way, this will change. U.S. Route 220 will become the "Appalachian Thruway"—a straight, four-lane superhighway with barren rights-of-way on either side. The Bald Eagle section will follow one of three paths: the present, which splits the valley; the mountainside corridor across wood

ring seeps, and reverting fields; or aidgetop route through oak forest.

The developers say a new Route 220 could create jobs, alleviate traffic problems, bring in business. They say these changes would be good for us, necessary for the wellbeing of the area.

And, on the other side, Carl and his colleagues at the Fish and Wildlife Service are saying each of the three routes would do tremendous harm to wildlife.

You and I

Just who are the developers? In this case, they're highway designers, county planners, politicians, and state government workers. But they're also you and I, because we've empowered these people—either directly or by default—to make decisions for us. To put up powerlines, erect dams, take our land through condemnation, tell us where we can and cannot locate houses—and, of course, to build our roads.

I remember an October day when Carl and I crossed the ridge to hunt a cover on the flank of Bald Eagle Mountain. Although well-known and heavily hunted, this patch of brush is usually good for a flush or two on grouse or woodcock. Deer live in its tangled depths, and rabbits, and raccoons.

When Carl and I left the truck, we entered a path bored through the crabapples and pines. The ground was cleared, and numbered wood stakes with yellow plastic ribbons marched down the corridor, through the heart of the cover. I hadn't heard of the plans for the road; I stood in the mud holding an empty shotgun, listening to the story Carl told. That was two years ago; so far, 220 hasn't been expanded or relocated, the state department of transportation having put the project on hold because they're low on money.

But I'm still burdened with the belief that, sooner or later, the project will be revived.

I know, too, that 220 is just one highway, Bald Eagle is just one valley, and this kind of development is going to roll all over the state and the country. The more I think about it, the more 220 seems to epitomize the way things have gotten out of hand.

I guess I see the road as I see many



manifestations of society—not only as unnecessary, but harmful. Harmful to deer and turkeys and songbirds, and harmful to that subtle, often unappreciated facet of existence we've come to call "the quality of life."

The quality of life is affected by the condition of our environment. By open space and quiet. By the presence or absence of little things such as trout, bluebirds, woodcock, or pale spring flowers; and big things such as dams, airports, and highways. What I am saying—what Carl and the Fish and Wildlife Service and many other groups of people have been saying for a long time—is that we've come to the point where we must stop. Stop building roads like 220, roads that cut increasingly into wildlife habitat, simply because we've been building them for the past two decades. Stop and look at what we have, what we're gaining, losing, and trading off—what in life has true and lasting quality.

Carl has made his choice. He's chosen to work within a cumbersome, often frustrating society to slow the downhill slide of the quality of life. He's chosen to fight rearguard battles.

I find myself choosing, too. I choose

when I finish a can of beans and throw the can in the trash—instead of washing it, pounding it flat, and saving it for a recycling center. I choose when I drink instead of walk, or buy drinks instead of aluminum cans instead of returning bottles. I choose every time I sit down to write my congressman, feel defeated and powerless before I start, and end up throwing the crumpled letter in a wastebasket.

Small and Important

The choices are many, small, and important, and they're yours as well as whether or not to buy a second child; have another child; plant a garden; condition your house; buy a snowmobile or a trailbike or a shopping cart-full of that nearly useless, undurable manufacture cluttering the shelves of so many department stores.

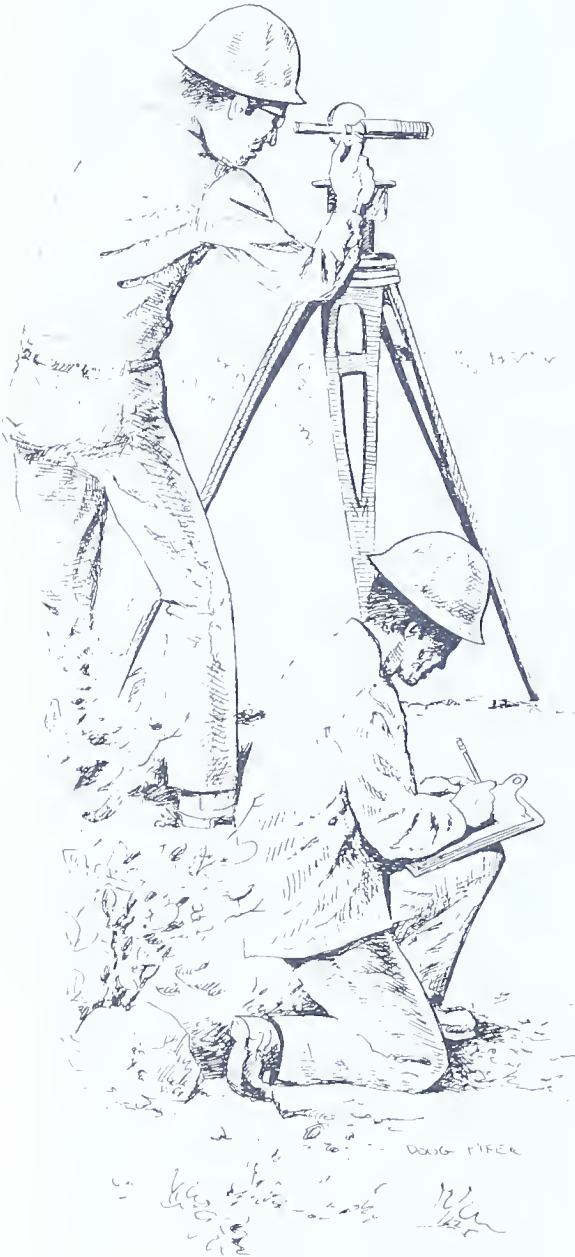
The choices are there. We make them every day, and we have to live with them.

It's amusing that people like Carl and people who question the modern alchemy of growth and development—sometimes labeled "radicals" by big companies or organizations whose policies they challenge. Carl and his kind want to slow growth, stop change, save what we have left; by definition, they are the conservatives. And those people who want to force our society to continue to expand are the real radicals.

I'm not much of an economist, but I can tell from all the clamor about growth and development, manufacturing and the gross national product, that the radicals feel these forces are what will make the United States go. They may be right. But if we continue to accept their theory without question—without leaving options for change—we're still captive of a tired, frontier notion: that the vast, rich lands stretch without end, that we can expand indefinitely, that the ocean bounds our plain.

We need to learn a new notion. We must learn to conserve, make do, use, limit, content ourselves with less. We must realize that "small," "simple" and "efficient" are better adjectives for our time than "big," "ornate," and "powerful."

But Carl is quick to remind me that



te noted conservationist Aldo Leopold called for just such an ethic in 1933, and now it may be too late. The environmental push of the late 1960s seems to have been a fad: it is fading, and economics—not a sense of conservation—is the deciding factor of the 70s.

"There's no doubt in my mind," Carl said the other day, "that our resources will be gone before our attitudes change. It's just human nature." We were in his cubicle in the Fish and Wildlife Service's windowless office building; Carl in Levi's, black cowboy boots that needed a shine, and a flannel shirt, his familiar, broad face grim. I don't know how often we've spoken of the attitudes and trends sapping the quality of life, but often enough to refer to the syndrome simply as "it": "it's gone too far"; "it doesn't make sense"; and "what can we do about it?"

To this last question there is no general answer. We—Carl and you and I—can deal only with specifics.

Like the road over the mountain that may or may not carve a valley, may or may not provide another high-speed ribbon on which to burn gasoline already running out. So far, the foe has been kept at bay in this small battle; it's one of many isolated rearguard battles, but it offers some hope.

Woven into the plans for the new Route 220 is an "additional alternative" called the "No Build Option." It means, for once, what it says, and would leave the highway the way it is, with only routine maintenance.

We can insist on the No Build Option for Bald Eagle Valley. We can fight for a valley here, a river there, a mountain range, desert, swamp. We can fight our rearguard battles one by one: at this point, it appears that's all we can do.

Trapping Book Available

Pennsylvania Trapping and Predator Control Methods by the late Paul L. Filor is again available. Now in its eighth revised edition, this 96-page soft-bound book contains detailed information on all phases of Pennsylvania trapping. It covers numerous sets for foxes, beavers, minks, muskrats, weasels, raccoons, skunks and opossums, tells how to make bait, tan small furs, prepare equipment, etc., lists pertinent laws and regulations, and gives data on fur harvests and natural history facts. Price, \$1 delivered, from Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120.

GAME NEWS Cover Prints Available

In answer to numerous requests, we can now supply a selection of GAME NEWS covers in a size and format suitable for framing. A set of four covers, all by internationally-acclaimed wildlife artist Ned Smith, now is available. These are full-color prints, enlarged to 9x12 inches on 11x14 heavy, coated paper, without the GAME NEWS logo. The set includes Ned's woodcock from the April 1974 issue; the woodchuck from July 1974; the doves from September 1972, and the buck and doe from the December 1971 issue. These prints are not available individually. The price is \$3 per set, delivered. Make check or money order payable to Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120.



WHAT BETTER WAY TO START deer hunt than with breakfast together? Terry Meyer, 12, of Berwick, Wis., was guest of her uncle, George Waydo, of Berwick. Neighbors Jeff Marsh and his father Ted and brother Van fill out table.

Day of the Deer

By Keith C. Schuyler

Photos from the Author

PERHAPS WE expect too much of ourselves in this pursuit of deer with the bow and arrow. Misses and misadventures may cloud our interpretation of contentment when they, in themselves, can be the real spice in the sport.

Without some evidence of success along the line, any game can get monotonous. So, in deer hunting it is necessary that somewhere, sometime, someone scores. But there are many facets in a full day for deer that add up to a composite in hunting pleasure.

It seems a bit strange that many who select the bow for its primitive implications and the additional sport it makes available, take a modern stance in all else pertaining to their hunting. Even when a group gets together, it is usually at a predesignated spot where everyone gathers after leaving home.

What better way to start the day than

with breakfast together? There is a tendency to reminisce about previous hunts beyond the proper time to move on. But a special fellowship is provided by hot coffee, ham and fried eggs plus muffins or toast and jelly while the woods wait. Besides, it is a time to check the roster, plan the drives, and make sure everyone has signed for a license, as this may be the first use of the new one.

Planning is an important ingredient of any good group hunt. This is particularly important if some are strangers to the area. Since most well organized group hunts start with an early start from which the first drive can be staged, each person should have a reasonably good spot to enjoy the sunrise. There is no more lost feeling than to have someone drop you off at a point in the dark with instructions. "Follow this hedgerow for about

hundred yards, make a left at the first patch of brush for another hundred feet or so, then cut straight into the woods until you find a big oak tree. That's your spot." The captain may know the territory like the back of his hand, but he may not have studied the back of his hand for some time. Unless the person being placed on stand is completely familiar with the territory, he should be taken directly to the spot and given a whispered idea of what direction deer are likely to come from.

In the woods of early October, it is easy for anyone—even someone quite knowledgeable about the territory—to become fouled up in the dark. Those in charge of the hunt should make certain everybody is properly stationed, if only for their own personal benefit. If someone goes wandering around in the dark looking for a spot he can't find, he is apt to scare away, or at least alert, every deer within a considerable distance. And there should be a rendezvous that everyone can find to avoid a waste of time in setting up the first drive.

It is amazing how much better hunting can be obtained by a small group that is well organized and oriented to the territory when compared to a big gang that has too many chiefs and too few Indians. Somebody has to be captain, and it really should be someone who knows not only how to hunt deer, but also the territory to be hunted. Many hesitate to offer suggestions for fear they will be regarded as too bossy or overbearing. Well, a captain is expected to know just a bit more than the average, regardless of what the endeavor might be. In deer hunting, a few suggestions are in order about moving as quietly as possible, talking in whispers, remaining exactly where one is stationed, and not leaving a position until a designated time or signal.

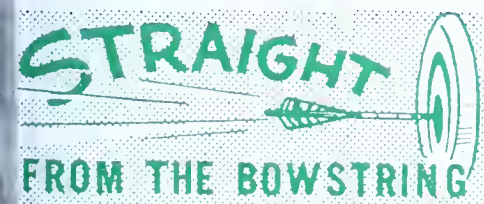


SETTING UP a drive is an important part of any group hunt. There are usually stories to tell when the gang gets back together, for unusual incidents happen often outdoors.

Plenty of archers around have never taken a deer with a bow, but they can be among the best hunters because of many years of carrying a gun in season. And in each group of bow hunters there will be those who welcome some instructions. It can avoid embarrassing mistakes and add to the accumulating knowledge of those who are relatively new to the sport.

The captain should also have consideration for everyone in the group. There is nothing wrong with an occasional rest stop, especially on a warm day in October.

Several years ago I was the one to be embarrassed in retrospect after taking a group up a snowy mountain to put on a drive across the top. Some of the mountains I used to handle with little effort became steeper as they got older, and I was making more rest stops than I might have some years ago. A few of the younger fellows appeared a bit impatient with these rest stops, and I cut the time as short as possible. Later in the day, one of the hunters had something to say about how fast we climbed that mountain. He thought he would never make it at the pace I was setting. It is





REST STOPS are welcomed by most archers when hunting the hill country, for few are in as good shape physically as they'd like to be—and always swear they'll be next season!

well to keep in mind that not everyone has the opportunity to climb mountains as often as the more active hunters. The group's pace should be geared to the average.

One of the rules which should be established before the hunt is even started is what to do in the event of a hit in which the deer does not go down within view. It is no secret that an arrow usually kills by hemorrhage, and deer may travel some distance before dropping. More hunts can be fouled up when this happens than in any other manner. Everybody wants to get in on the act, and I have seen a good hunt deteriorate rapidly on such occasions. Normally, the person who made the hit and one or two others should try to track the animal down. Too many hunters and too much noise can send the deer far beyond where it might be expected to drop.

Stay Away

In fact, the main group should stay away from that area for some time until the trackers have had their opportunity. If they are not successful, then is the time to set up a drive in the general direction the deer took in the hope it might be recovered in this manner. Some years ago we had such an experi-

ence wherein the trackers could not find the animal, and a drive was set up in that area. Not only did the drive reveal the "lost" deer, but another was taken on the recovery attempt.

There comes that time when a young man's fancy turns to thoughts of—food!

If not properly handled, this can be the most hazardous time of the day relative to maintaining the integrity of the hunt. Some may also be inclined to sneak off to watch a ball game on television, clean that garage, or pair that shed. This can really foul up the hunt, and it is well to have an understanding that you are out for the day. When you are back in the mountains, it isn't nearly so tough to keep your gang together. There are few distractions in the deep woods when hunger insists upon being satisfied. By that time everybody is ready for a good rest break in any event.

Pick a site where any merriment will not be to the detriment of the next drive. Once deer know where you are, their senses will record every move you make from that point on. Lunch should be set up well away from the intended drive area. And, of course, there is the matter of policing the area for stray sandwich wrappers, bottles, and cans.

Hopefully, someone will make

score sometime during the day. When this happens, there should be no problem as to what to do next. If the weather is warm, it is almost necessary to get the animal home for cooling as soon as possible.

It is a standing rule with our groups that the deer belongs solely to the successful hunter. He, of course, is happy to score, but he is through for the entire season. Others may continue to hunt throughout the October session, hunt with the bow or gun for antlered and possibly antlerless deer in the gunning seasons, and still have a chance to score during the extra season beginning December 26. Consequently, for those who really love their hunting, there are mixed feelings about just how lucky the successful hunter really is.

Of course, there are those who will continue to drive deer for the group and carry, if anything, a camera for the remainder of the season. Each year we have those who take this route and find considerable satisfaction in being part of the hunt without the usual pressures that go with carrying an arm.

Those who disdain taking a doe with the bow might think about this route. Not only are their companions appreciative of this extra effort, but the Bowman who has filled his deer tag finds a new perspective in still being part of the hunt. However, he will probably end up more tired than anyone else since he is only permitted to drive. Of course, while others are seating it out on their late afternoon sands, he can be catching up on his sleep. Although some may wish to continue driving right up to quitting time, others may elect to again take individual stands. Whichever method is selected, there should be an understanding beforehand. Early morning and late afternoon are the best and frequently the only times in which a chance to score is likely in farm areas.

Except in remote mountain areas, deer take it easy during the day, particularly when the weather is warm.

So, you have your choices.

One thing is certain. Those who take up the bow in October have the most beautiful and most pleasant time of the year for their outing. Although you may be stomping through snow before the



GEORGE WAYDO'S reward for proper planning and good shooting—a fine 8-point. Taking a trophy like this provides memories for years to come.

season ends, the early weeks of Indian summer are something special, particularly in Pennsylvania. And when that minute hand of your watch marks sunset somewhere behind the hills, you have had an opportunity for pleasure that is unique to this part of the world.

Every day is a day of the deer. It is also an opportunity for many other outdoor pleasures that are reserved for Pennsylvanians and those who visit us at this time of year.

The Rest Keep Roamin'

Although they are subjected to much more severe weather than are other bears, only the pregnant female polar bear sleeps during the winter.

After the Muzzle Blast

By Don Lewis

Photos by Helen Lewis



LONG BEFORE the clouds of World War II darkened the horizon, I made a shot with my 20-gauge Stevens double that had to carry odds of ten thousand to one. In fact, it's still hard for me to believe.

I bounced a rabbit out of a drainage ditch, but didn't get a shot until it was 30 yards away. The cottontail was speeding along in a wide semi-circle when I fired the right barrel. My load of 6s never touched a hair, and that's no pun, but before I could get the second shot off, the rabbit did a double somersault and skidded to a halt. I was flabbergasted. I hadn't heard a shot, but I still looked around to see who had done the shooting. It was baffling; the rabbit had run 10 yards after I missed it.

I collected the rabbit and headed back to my brother Dan, who was about 200 yards from me. When I got there, he made a big fuss, knowing it was more luck than good shooting when I occasionally connected. What he didn't understand was why he hadn't heard my second shot since he had seen the first one miss. He claimed it was the

first rabbit he had seen in years hunting that died of a heart attack.

A closer examination showed what had happened. Buried in the side of the rabbit's neck was the felt filler wad. Neither of us then knew anything about the mysteries of shot balling, but we did assume some pellets had stuck to the wad, giving it enough weight to deliver a killing blow at close to 30 yards.

The account of this once-in-a-lifetime shot is given to show that the wad had traveled with authority to nearly the effective killing range of the shotgun. The shotgun does have a limited range, but, in reality, that is its greatest asset. If a scattergun tossed a load of number 8s a thousand yards, it would be impossible to have skeet or trap ranges in congested areas. Also, it would eliminate a lot of good hunting areas around business developments and small farms.

In any case, but there is some confusion about how far a shotgun will throw a load of shot (I'm speaking strictly of the maximum distance the pellets will travel from an upward-angled shotgun).

under ideal conditions; this is not to be confused with how far the scattergun is effective under hunting conditions).

A popular theory is that velocity determines how far the pellets will fly. It's tough to argue against this, since obviously any projectile needs velocity to get from one point to another. However, since most shot pellets leave the muzzle with pretty much the same velocity and maximum ranges vary significantly, the cause must be something else. Actually, air resistance is the most important factor in limiting distance. Since shot pellets are small and have a large surface area in proportion to their mass, they do not overcome air resistance well. The distance a shot pellet travels is determined by its ballistic coefficient, which is a measure of a projectile's ability to overcome air resistance; however, the BC of a sphere, if made of a given material, depends on its diameter. From this, various formulas have been devised for calculating the maximum range of shot pellets. The best known is by a French army officer, General Journee, who around the turn of the century stated that a shot pellet's maximum range in yards was equal to 100 times the diameter of the pellet in inches. Two examples will illustrate the importance of pellet diameter rather than pellet velocity. In equivalent loads, both No. 9 shot and No. 5 shot have about the same muzzle velocity. However, No. 9, which has a diameter of .08" (which can be determined with a micrometer or, more simply, by subtracting the shot number from 17), when multiplied by 2200 is seen to have a max range of 176 yards. No. 5, with a diameter of .12", is seen by the same procedure to have a maximum range of 264 yards.

Another time worn belief I'm about to kick in the pants is the entrenched idea that choke adds extra yards to the



OPEN-BORED BARREL of Helen Lewis's 20-gauge Savage M330 was perfect choice for cottontails in snowy woods during the past winter season. Size 7½ shot is top selection for such shooting.

flight of the pellet. I'll betcha that raised a lot of eyebrows, but we have to stick with ballistic facts. Choke is used to control pattern size and density, not to add distance to a pellet's maximum range, but making a statement like that forty years back was bordering on heresy.

When I was a youngster back in French's Corners, I listened with awe and admiration as the old-timers ridiculed any hunter who would dare carry anything less than a long-barrel, full-choke 12-gauge. I believed with a pure heart that the long-toms threw their shot string 50 yards farther than the insignificant 20-gauge. It wasn't until Dan explained some ballistic truths and assured me most of what I was hearing was hokum that I began to question such statements. His ideas weren't popular, and were considered by his contemporaries as pure "magazine bunk." But he proved his point at a homespun shoot where his 16-gauge Crescent 26" full choke barrel rattled a tin plate just as many steps away as did the veterans with their long 12-gauges.



Although neither Dan nor I had any solid evidence for what happened when my filler wad rolled the rabbit, it's a pretty fair guess it was due in part to "shot balling." This used to occur fairly often when hot gases bypassed the wad and mixed with the shot charge. Due to the high heat, several or more pellets fused together. Back in the gaslight era when very soft shot was used, shot balling was not uncommon. The modern one-piece plastic wad/shotcup has virtually eliminated this.

A rifle bullet's trajectory is much more familiar to most of us than the path of a shot charge, and every hunter at one time or another has made a trajectory allowance by "holding high." I've done it on numerous occasions, but it has little appeal with me. I zero in high enough at 100 yards to put me on target at the longest range I think I'll be firing. A hunter in a 200-yard area doesn't need a 30-06 sighted in 3 inches high at 100. A mere inch is sufficient for the 150-grain bullet moving out the barrel at 2900 fps. But it will be 6 inches low at 300, if a long shot is presented, and 13 inches down at just 350. Note the accelerated drop during the last 50

yards. A 180-grain slug at 2700 fps needs nearly 2 inches at 100 to be on target at 200, and it will be 9 inches low at 300 and 16 at 350.

The Magnum user will immediately claim his big cartridge has a much flatter trajectory, and to some extent that's true. The question is, how much? Let's see. With a 150-grain slug blasting out the barrel of a 300 Winchester Magnum at 3400 fps, my calculations claim a height of $\frac{3}{4}$ " at 100 will be on the money at 200 yards, dropping on 3 inches low at 300 and 8 at 350. The 180-grain will need a full inch at 100 to be right on at 200, but it will be 5 below at 300 and 10 under the aiming point at 350. For the short-range hunter, this is not important, but I have to agree that big Mags have the advantage over the longer hauls.

Many years back, I took the advice of an old varmint hunter for sighting in my chuck rifle. He was plain and to the point; zero dead-on at 100 yards and use a variety of estimated holdovers when distances grew. Time has faded most of his instructions, but I recall vividly I was to have a "pencil's width of light between my 222 scope's ho-

SOMETIMES EVEN AN EDITOR gets out of the office. Bob Bell and Helen Lewis with several chucks taken in Potter County last summer. Both hunters are using HB M700 Remington 22's, scopes by Leupold and Weaver.



ontal wire and the chuck's noggin at 50 yards. Apparently, his idea of what pencil's width of light looked like at 50 was vastly different from mine. What seemed just right for me sent slug after slug whistling over the chuck. Whatever other factors I used for different ranges didn't give any better results, and I went back to my standard plus-2-at-100 zero. This put a 50-grain bullet 1½" high at 175, on target at 225, and about one inch low at 250. It dropped 8 inches at 300 and about 18 inches at 350.

Trajectory Arc

The varmint hunting buff should have complete knowledge of his load's height arc, but the big game hunter normally doesn't shoot as far, and his target area is much larger. Still, knowing a little about the trajectory arc can tell the difference between a hit and a miss. Ballistic writers refer to the bullet's downward arc as the "rate-of-drop," and it's figured on the basis of the number of inches a bullet falls for every 10 yards of forward travel.

The bullet begins to drop at the speed of gravity the instant it leaves the muzzle. However, because its velocity is high at this time, it travels quite a distance forward while dropping only a small amount. But as air resistance slows it down, its rate of drop increases automatically. Note that the 50-grain 2 slug dropped nearly as much from 0 to 350 as it did from 200 to 300. For the popular 308 Winchester 150-grain flat point which leaves the muzzle at 60 fps, rate of fall starts at roughly two-tenths of an inch per 10 yards of travel, adding up to a total fall just short of 2 inches at the 100-yard mark. Rate of drop increases quickly, and is falling out 4 inches per 10 yards at the 500-yard line.

Zeroed at 200 yards gives a trajectory that is one inch high at 50, 2¼ inches at 100, 2 inches at 150, and zero at 200. The speed begins to taper off in a hurry, and the rate of drop accelerates. At 250 yards, the 150-grain bullet is 3 inches low, dropping to minus 8 at 300 and minus 14 at only 350. Running out on out, I think a drop rate of 2½ inches per 10 yards at 400 proves that



EXTERNAL micrometer adjustments make it easy for Bob Wise to adjust 12x Lyman Super Targetspot on his 22-250. Combination is a deadly woodchuck outfit at any reasonable range.

leaving just a crack of light between the horizontal crosswire and a buck's back is not going to score a hit at 400 yards with a rifle zeroed in at 100. The bullet would be two feet low at 400 and four feet at 500 even with a rifle sighted in for 200 yards.

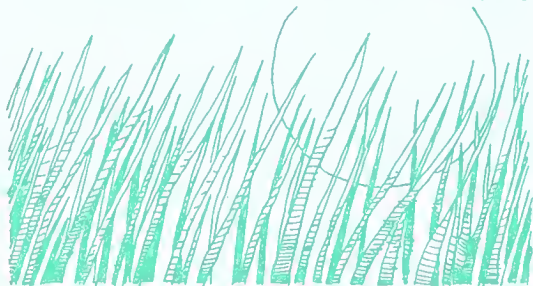
Nothing beats actual range firing. A chance long distance kill proves very little, even though a trophy rack decorates the wall for years to come. We have to admit it was mostly luck and not knowledgeable ballistics that made the kill. Luck can be removed by firing groups at known distances, as I proved many years back to a hard-liner who firmly believed in the flat-on-at-100-yards theory.

He was heading West for antelope, and I wanted to zero his rifle just a bit high on my 300-yard target. Grudgingly, he watched as a 4-inch group formed just above center on the 300-yard target. But he wasn't too happy, figuring he could do better with a flat-on job. He rather pointedly claimed he would have to stay in South Dakota and shoot into Wyoming, the way I had his rifle zeroed. I happened to notice a gallon antifreeze can at the base of the target board and offered him a shot, telling him to hold just below center. A minute later, he sent a 150-grain slug on its way. We were both startled when the can literally exploded. Seems rain had filled the can, to make a dynamic display. One thing sure—it convinced him he was heading West with a rifle that would do the job.

In the wind

toni williams

information writer



While gardeners and farmers appreciate the value of organic farming, many have been reluctant to "go organic" because they felt it didn't pay. True and false, according to groups at Washington University and the University of Missouri. Their studies show manure-fertilizing Corn Belt farmers do as well financially as their chemical-fertilizing neighbors. While the crop value is somewhat less on organic farms, so are costs. And since raw materials for chemical fertilizers are becoming scarce and more expensive, manure fertilizing may actually become cheaper . . . ahem . . . in the end.

The Tecopa pupfish is gone. Extinct. It's the first animal ever to be removed from the federal Endangered Species List for that reason. It's presumed extinct because, despite many attempts to find it, the unique little fish has not been seen since 1970. Assistant Interior Secretary Robert Herbst commented: "The most depressing thing . . . is that it was totally avoidable. The human projects which so disrupted its habitat, if carefully planned, could have ensured its survival."

In several densely populated areas (such as southern California) large military bases provide about the only extensive open spaces. Many bases conduct active wildlife management programs—but these programs may be drastically cut. President Carter has vetoed a bill extending the Sikes Act, which provides federal money for wildlife habitat improvement on military and some other federal lands. His objection was reportedly not to the program itself, but to a particular provision of the bill—but a veto is a veto is a veto.

Solar energy, by reducing various forms of pollution associated with fossil fuels, is good for wildlife. But in Manitoba, the benefits are even more direct. A fish hatchery there has "go solar" for about 70 percent of its heating needs. It's the first practical application of solar energy in a Canadian federal government facility.

Fewer pairs of Kirtland's warblers were found nesting this year than last. Only 19 pairs of the endangered birds were located, in comparison to 218 pairs last year. Biologists in the small nesting area in Michigan feel sure they found most of the nesters. No one's quite sure why they declined, though last spring's drought might have had some effect. One bright note: Those birds which did manage to nest produced well; three nests had six eggs each, a record high.

At first report, things look pretty good for the Great Lakes in the wake of a ban on phosphate-containing detergents in lakeside areas. Though it hasn't yet reached its full expected potential, the ban has so far resulted in an average drop of 38 percent in the phosphate discharge from eight cities. An excess of phosphates may lead to eutrophication, or premature aging, of lakes.

Update: The attempt by Cornell's Stephen Kress to reintroduce the puffin to an island off the Maine coast is yielding encouraging results. Several hundred young chicks from an island off Newfoundland have been transplanted in recent years, in hopes they would return there to breed. They're not old enough for that yet, but the fact that a number of the released birds have returned and been observed hanging around their fledging site encourages hope for the reestablishment of a breeding colony there.

Delaware has joined six other states with beverage container legislation—popularly called a "bottle bill." Its main provisions require a five-cent deposit on containers, and prohibit detachable pop-tops, non-degradable connectors (those plastic gizmos that hold soft drink packs together), and non-refillable bottles. The catch is, it won't take effect until Maryland and Pennsylvania enact similar laws!

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Seasons and Bag Limits 1978-1979

The Pennsylvania Game Commission, in Harrisburg on June 1, 1978, established the following seasons and bag limits for resident game and furbearers for the 1978-1979 hunting license year which begins September 1.

Open season includes first and last dates listed, Sundays excepted, for game. The opening hour for small game, migratory game birds and other wild birds or animals on October 28 will be 9 a.m. Shooting hours for other days and seasons will be from one-half hour before sunrise until sunset except turkey gobblers (spring season) from one-half hour before sunrise until 11 a.m., and raccoons which may be hunted any hour except during the firearms deer seasons when the hours are from sunset to one-half hour before sunrise. Seasons and shooting hours for migratory birds will be announced later.

		DATES OF OPEN SEASONS		
		First Day	Last Day	
SMALL GAME				
Daily Limit	Field Possession Limit			
6	12	Squirrels, Gray, Black and Fox (combined)	Oct. 14 Nov. 25 AND Dec. 26 Jan. 13, 1979	
2	4	Ruffed Grouse	Oct. 14 Nov. 25 AND Dec. 26 Jan. 13, 1979	
4	8	Rabbits, Cottontail	Oct. 28 Nov. 25 AND Dec. 26 Jan. 13, 1979	
2	4	Ring-necked Pheasants, males only (except in designated area)* —both sexes in designated area*	Oct. 28 Nov. 25 Dec. 26 Jan. 13, 1979	
4	8	Bobwhite Quail	Oct. 28 Nov. 11	
5	10	Raccoons (Hunting)#	Nov. 1 Jan. 31, 1979	
Unlimited		Woodchucks (groundhogs)#	No Close Season Sunday hunting prohibited	
Unlimited		Foxes (Furbearer)—Red and Gray (Hunting)#	Oct. 28 Feb. 28	
Daily Limit	Season Limit			
1	1	{ Wild Turkey—Northcentral Area**	Oct. 28 Nov. 18	
			—Southcentral Range and Peripheral Range	Oct. 28 Nov. 11
			—Spring Gobbler Season (bearded birds only)	Apr. 28 May 19, 1979
1	1			
2	4	Hares (Snowshoe Rabbits) or Varying Hares	Dec. 26 Jan. 1, 1979	
		NON-GAME		
Unlimited		Crows (Hunting on Fridays, Saturdays, Sundays only)	Sep. 1 Nov. 26 Jan. 5 Apr. 15, 1979 Jun. 1 Aug. 31, 1979	
		BIG GAME		
1	1	{	Deer, Archery Season, any deer—Statewide	Sep. 30 Oct. 27 AND Dec. 26 Jan. 13, 1979
			Deer, Antlered, with 2 or more points to an antler or a spike 3 or more inches long	Nov. 27 Dec. 9
			Deer, Antlered, and Antlerless with required antlerless license, buckshot or single projectile shotgun ammunition (slugs or “punkin” balls) only in Special Regulations Area listed below***	Nov. 27 Dec. 9
			Deer, Antlerless, with required antlerless license, Special Deer Management Area****	Dec. 14
			Deer, Antlerless—Statewide	Dec. 15 Dec. 16
			—Counties, and parts of, listed below*****	Dec. 11 Dec. 16
			Deer, Antlered and Antlerless—with specified muzzleloader on State Forest Lands, Special Deer Management Area and on designated State Game Lands*****	Dec. 26 Jan. 13, 1979
		TRAPPING		
Unlimited		Skunks, Opossums, Raccoons, Foxes, Weasels, Coyotes# (traps) .	Nov. 5 Jan. 31, 1979	
Unlimited		Minks#	Nov. 23 Jan. 1, 1979	
Unlimited		Muskrats (traps only)	Nov. 23 Jan. 1, 1979	
3	3	Beavers (traps only)	Feb. 10 Mar. 11, 1979	

NO OPEN SEASON—Bears, Elk, Otters, Hungarian Partridges, Sharp-tailed Grouse, Bobcat or Wildcat.
NO CLOSE SEASON—Chukar Partridges, Red Squirrels.

For special regulations concerning deer, pheasants, turkeys and beaver, consult the 1978-79 Hunting and Trapping Digest.

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COVER PAINTING BY CHUCK RIPPER

You think you've got him. The dog's on point, you know exactly which clump of weeds he's in, no one else is around to flush him. You creep up to the dried brown stalks hiding him . . . slowly, quietly each sense made keen by anticipation. Almost there now. You're ready, the gun's ready . . . but where is he? You know he's there. He can't have snuck off—can he? Now you're rattled, frozen in doubt. Suddenly, up he goes with a crash and a cackle. You fire, but he's gone. You were off guard. My friend, you've just been treated to another "The Pheasant's Bag of Tricks." For sympathy and suggestions for the season, turn to Mort Grossman's article on page 17.

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Thank God It's November

SOME PEOPLE ARE ALWAYS ready to go hunting. They spend all their free time in the field, gun in hand—smoothbore if flying game is in season, deer rifle or varmint outfit if one of those is appropriate. And if there's nothing to hunt in their areas at a given time, such individuals can be found in their dens any evening, football "game of the week" completely ignored, making sure their guns are all in tiptop working order. Or else in the basement cranking out a bushel of handloads to get them through the next claybird session. Shooting can be addictive. A lot of the people I hang around with are hooked. For instance, while I was waiting for someone to load the high house trap last Saturday, I heard international skeet shooter Bob Kerstetter's wife telling a friend that if Bob goes more than three days without hearing his 3200 Remington go *Boom-Boom*, he starts getting withdrawal symptoms. That might be a slight exaggeration—wives are prone to such things—but not much.

All you have to do to verify this, if you don't have firsthand knowledge, is spend an evening with a hunter who hasn't been able to do any shooting recently. He's cranky, nervous, irritable. His mind doesn't stay on a conversation, the seat of his pants doesn't stay on his easy chair. He roams from room to room, interrupting whatever anyone else is doing and leaving before they can tell him what they think; he pauses at the refrigerator to eat a chunk of sharp cheese and take a swig of Coke—out of the king-size bottle—then vanishes before his wife can yell at him about that; he flips across all the TV channels without pausing long enough to see what's on any one, then snaps the set off and stands a few moments trying to peer out a window into the darkness, but seeing only his own scowling reflection. Not until he reaches the gun cabinet does his frown disappear. Then for what seems to his wife the rest of the evening, he fondles his pets—the short-barreled, smooth-swinging L. C. Smith double; the somehow ugly yet super-efficient Browning Sweet 16; the Mannlicher-stocked, Redfield-scoped 284 Mauser. In a world of his own, he stands there by the cabinet, examining one gun after the other, making certain it's empty, caressing it. Then, again with one gun after the other, he moves into a game-flushing attitude. Suddenly he hears a signal no one else can comprehend. His feet move automatically, the gun flows upward, and as he butt seats tightly against his shoulder and the muzzle settles on the three-way juncture of walls and ceiling, his finger slaps the trigger, slaps a second time as the barrels swing smoothly to track a bird that only he can see. Time after time he goes through the same drill, oblivious to everyone, everything. So far as he's concerned, the world has narrowed itself to him and the gun. In a sense, they are the same. Finally, his wife can stand it no longer. She interrupts to suggest that he take out the trash. He mumbles something which she interprets as an affirmative answer, but the next thing she recognizes is the smell of mink oil being rubbed into his birdshooter boots, and she glances down the basement steps to where he has accumulated an incredible pile of leather-faced canvas pants, shell vests, orange hats, wool and chamois shirts, buckskin gloves, thick wool socks, red suspenders . . . She turns away in helpless frustration. "Thank God it's November," she sighs. "At least he'll be out of the house."—*Bob Bell*

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The Inheritance

By Paul J. Rundell

THEY DROVE slowly through the somber November countryside. The road was still damp from the night's rain which had brought down most of the remaining foliage, and only a few reddish-brown oak leaves still clung to their branches. The sky was the color of stone, reflecting the bareness of the land and which only a few weeks before had burned with color.

The man's forehead furrowed as his eyes searched for familiar landmarks. A grove of maples in the corner of an abandoned field triggered something in his brain and he took the next left turn off the blacktop, up a narrow dirt road flanked by weathered stone walls.

The boy had been sleeping and the vibration of the tires on the gravelled roadpan woke him. He rubbed his eyes and sat up, peering through the window at the new surroundings. He yawned. "Are we there yet?"

"Almost. There's a gap up ahead on the right. We'll park there unless somebody's posted it." Out of long habit, he parked to one side so as not to block the way.

A current of air twisted down the ridge to the north, bringing a penetrating dampness and the odor of unused fields. It had been warm in the car, too warm. The man shivered and put on another wool shirt and his hunting vest.

They found the gun cases under the extra clothing on the back seat. The man watched as the boy assembled the little double, hooking the barrels over the hinge pin and dropping the rib extension carefully into the cut in the standing breech. He pressed the fore-end into place and opened the gun. The faint banana odor of powder solvent came from the chambers.

"Better look through your barrels. Make sure they're not plugged."

"I did that last night." The boy was offended at the reminder, his youthful pride pricked at the suggestion that he could have forgotten something relating

to his gun. At 16, he was almost grown.

"That's all right, it's a good habit to have. Only takes a second before you load up. I shot out a couple of patches once in an old gun I had. Put a ring in the barrel."

Frowning, the boy pointed the muzzles skyward and verified the emptiness of the barrels. The man grinned as he pulled the stock of his own gun from its case.

The man rummaged through the contents of a canvas bag and brought out two boxes of shells. He handed one to the boy and tore the top off the other, filling his vest pockets with the yellow plastic cases. For all their durability, he had never liked plastics. Shotgun shells should be green and paper and roll crimped, and you looked at the over-shot card if you wanted to know the shot size. Progress, he thought.

Small Details

He lingered now over the small details of preparation; adjusting his boot laces, dividing the heavy hunter's lunch which he knew they would eat long before noontime, describing the coverts they would hunt as he sketched small maps on the top of the shell box. He savored the anticipation in these moments, for it was the catalyst of a hundred memories and a score of Novembers. It was a time when you looked both ways. The past and the future met here.

The boy fidgeted, impatient with the delay. The man closed the door and locked it.

"Let's go. They're waiting for us."

"Who?" the boy asked.

"Why, the grouse, of course."

They picked their way through the tangle of briars which had sprung up along the old fencerow. Thorns rasped on the facings of their trousers and they held the guns high to protect their hands. Then they were free and the man stopped.

"Load up," he said. "We'll hunt the brook covert first."

They walked downhill toward the edge of the field. Unmowed for years, it was being slowly reclaimed by the encircling forest. Aspen, birch and sumac grew in profusion along the old walls. A rabbit burst from a tangle of brown grass in front of them and disappeared among the stones.

I remember when we cut hay here, the man thought. We cut it with a horse-drawn mower and when it was dry we raked it and shocked it and pitched it on the wagon loose. He could feel the heat and the dust and the hayseed spilling down his neck as he swung a forkful of timothy over his head, mingling with his sweat and settling somewhere near the small of his back.

At the edge of the field the man held up his hand. Another dilapidated stone wall intersected the one they had followed, and beyond it the ground fell away and water splashed somewhere below them.

"Here's where we separate. I'll hunt the creek bottom. You follow the wall here. See where it curves around the base of that hillside, where all those pines are planted? Birds I flush will fly

uphill into that thick cover. You'll get a shot when they cross in front of you. Unless I get 'em first, of course." He grinned and the boy knew he would get his fair share of chances. This was his first hunt and his father wanted him to kill a bird.

"Go ahead now. I'll meet you at the far end of those pines." The boy nodded and started off. Strategy was important when you hunted grouse without a dog.

The man sidestepped down the slope to the stream bed. The ground was softer there and a few alders shaded the water. He had shot his first woodcock here and he instinctively looked for white splashings on the brown leaves, even though it was already too late in the season for them. Probably a few birds in here after that cold snap two weeks ago, he mused.

Mosaic of Small Places

Alone with his thoughts now, his mind wandered across the landscape. For him this country was still a mosaic of the small places, a tapestry of little brooks and alder thickets and hawthorn jungles and pine stands buried in the hollows and pinned to the flanks of these abandoned hill farms. These were places full of mystery and memory and expectation. He recalled many of the spots where he had taken birds, and the kind of shot each had been. He knew the spring hole seeps where he could drink and the locations of den tree where he might find an old boar cool asleep on a limb in the afternoon sun shine.

He climbed the little hollow against the flow of the brook, moving with the loose and swinging gait of a man accustomed to rough ground. Long ago he had understood that men who hunted grouse in these hills must have good legs, good lungs and a fast gun. The double never rested in the crook of his arm or over his shoulder. He always carried it in both hands, muzzles ahead of him and slightly elevated, ready for the flush. Alert now, his mind was keyed to the coverts. He knew when to expect a bird and when he could relax and think about other things. Most of the time his approach worked. Sometimes a bird surprised him.



FROWNING, THE BOY pointed the muzzles skyward and verified the emptiness of the barrels. The man grinned as he pulled his own gun from its case.

It had been a poor farm even when it was family owned, but they worked hard at it and thought they had a good living. There was less money in those days but it bought more happiness. A secondhand shotgun, a broken box of shells, a barlow knife. Things that mattered to a boy in the country. Somehow the taxes were paid and the expenses were met and there had been enough left over to send him to college.

The hollow flattened and opened to its right and up ahead he could see the corner of the pines. He could look out across the valley now, and through the dissipating mist he could see the fields and the fencerows and woodlots and occasional farm buildings. The soil was better in the valley and farming stayed on there. It raised better crops. A man could make a living down there. The land was good, but the countryside was poor. He could see the geometrical recession of cropland and pasture and highway. There was no solitude, no hidden place which he could call his own even though he had neither title nor deed, and no grouse.

It was different here in the hills. He owned this country, all of it, even though his name was in no deed books. The ridges and hollows and old pastures were his, and the birds were his too. Especially the birds. They were his because he wanted them and needed them more than anybody else wanted them or needed them. In his mind he had nursed them through the change of seasons, hoping the spring wouldn't be too wet and cold that the broods would suffer, and that there would be enough snow in the winter to offer protection from the hawks and owls that came down from the north. Funny, he thought, how much a couple of grouse could mean to a woodlot. Changed the whole character of the place.

He remembered the sadness when the farm was sold. The family had all talked about how times had changed, how it was impossible to make a decent living any more by farming it. First the cows were sold, then some of the land, then finally all of the land and the house and the barns and outbuildings. Somebody from town owned most of it now and cut hay on a few of the fields. The

owner knew him and let him hunt. Most of the people in the area still remembered him and he was always welcome.

So he returned each November, after the summer tourists and foliage watchers had gone and before deer season opened, when the woods were clean and quiet and gray, to hunt grouse and reclaim what was his. This year he had brought the boy, because he was old enough now and he could understand.

"See anything?" His voice was hopeful.

"I saw two," the boy replied. "They flew that way."

"Probably landed in those thornapples in the corner of the pasture. Let's see if we can put 'em up again."

Around the Hillside

They hunted around the hillside in the direction the birds had flown. A few hawthorns stood in the corner of a bushy lot, but the birds were not there.

"Must have run after they landed," the man observed.

The boy was disappointed. "Where do we go now?"

"Are you hungry? It's after eleven."

"I guess so."

"Good. I know a spot to eat."

He entered the woods and soon found a spot where a trickle of water seeped from the rocks in the sidehill. He scraped aside the leaves and found a small pool not more than a foot across.

"This is good water. There used to be an old jelly jar here to drink from, but I guess it's gone."

"We can bring one up next time."

The man smiled. "Good idea," he said.

They found the sandwiches and cheese and apples and chocolate bars, and they ate, the boy fast and silent, the man slowly. He talked of the hunts he had made here with his father, of the guns they had and the birds they shot and lunches they had eaten by this little spring of sweet water. At last he fell silent and watched the gray clouds scudding across the sky. He shivered a little and stood up. His legs were stiff.

"Looks like we might get a shower. We'd better move on."

Impatient and frustrated at the pros-

pect of rain, he hurried now, pushing quickly through familiar cover. Several times they flushed grouse but the birds were inexplicably wild, getting up far out of range. The sky became darker and a fine rain began to fall, soaking quickly through the sleeves of the light wool shirts he wore. He shivered and realized now that they might go home without a bird after all.

Planned Carefully

He had hoped to at least put a grouse up in front of the boy's gun on this first hunt. He remembered how important those first few experiences afield could be, so he had planned this very carefully, hunting his own best coverts and giving the boy every opportunity for the shot. Like an intricately choreographed musical, he had designed the sets, written the script, directed the actors. Now he found that some of the actors would not cooperate.

He had planned to be there, close by, when the bird flushed, and maybe to watch the boy as he reacted to the explosion of the brown feathered piston, to see the gun swing and the bird suddenly gripped and held in midair, and to watch a soft nimbus of feathers settling gently among the dead leaves. He wanted to watch as the boy walked forward to claim the grouse while its final few battering wingbeats echoed through the covert. Most of all, he wanted to see the expression on the boy's face as he held the bird and smoothed its feathers while that wild yellow fire still burned in its eyes. He couldn't leave the boy the land, but he could leave him with the experience of the first hunt. He could leave him the birds, the coverts he did not own, the feeling of solitude and the smell of burned powder drifting on the damp autumn air, the bittersweet sense of achievement when you took the bird and the thousand little things which make a day afield a day to cherish. He had planned it this way.

It was raining harder now and the man caught sight of the boy's blaze orange vest through the brush. Might as well go, he thought. He was wet and cold and water ran from the brim of his hat.

"Let's head for the car," he called. "No use putting up with this any longer."

"You go ahead," the boy answered. "I want to make a swing through the corner of that woodlot." There was a note of determination in his voice.

The man started to object, then thought, oh well, what's the harm. "All right. Give it a try if you want."

He found his way through the gloom and dripping rain to the automobile. He started the engine and turned the heater on, thankful for the wet warmth inside the vehicle. The rain beat a drum roll on the roof. He found a country music station on the radio and waited.

Suddenly a rear door opened and a rain-beaded shotgun was laid on the back seat. The door slammed shut and into the front seat crawled a very wet youth. His hands shook slightly as he reached into the pocket of his game vest and produced one, then two, grouse. He smoothed their feathers and laid them on the seat. Unable to speak, the man stared at the birds. Their long tail and unbroken dark bands suggested they were cock grouse. Only after several moments did he realize that the boy was talking excitedly, describing in detail how he had taken the birds.

"Dad, you should see that woodlot. It's a great place. I must have flushed a dozen. They were all over the place in this one spot. Next year that's the first place I'm going to hunt."

Only Once

The defrosters were working now and the dark outline of the ridge was visible through the rain-spattered windshield. The man grinned and laughed and congratulated the boy sharing with him the exhilaration of a moment which happens only once in a hunter's life. It had not happened the way he had planned it, but that didn't matter. It was even better this way. You can't manufacture someone else's memories.

They drove slowly out of the hills in the darkening afternoon, through the rain and fog, watching for the deer that would be feeding early now because of the weather. Next year, it was agreed, they would return to hunt their coverts.



The Training Bird

By Sam Hossler

GROUSE WINGS on a flyrod are used to teach young dogs how to hold a point. Skeet and trap fields are used to school youngsters how to follow a flying target. Both are excellent ways to teach a tyro the basics of field training, whether the tyro be son, daughter or aspiring pointer. Nothing takes the place of actual field conditions, but other than using live pigeons released from a trap, what can the trainer do?

There is a species of bird made to order for both man and beast. This bird tops over on his way north, with some individuals staying to make their home right here in Pennsylvania. He will hold well for the young dog in training and when the season rolls around and the young shooter is ready to try his newly acquired skills on real game, he provides a willing though elusive target. Yes sir, the timberdoodle is not only one of the finest game birds to hunt but will put the finishing touches on the training of both hunter and dog.

In case you are not familiar with "timberdoodles," they are more properly known as woodcock and are hunted under the migratory bird laws, although a federal migratory bird stamp isn't required. Every year starting in

late February or early March these little fellows start arriving back from their southern vacations. Descendants of Pennsylvania-reared birds stop and nest in the same areas as their ancestors did for years before them. The story of their preparations for mating is fascinating.

Most of their diet is made up of earthworms, so they require moist ground to probe with their long bills. Thickets of hawthorn or crabapple or perhaps groves of alders and gray dogwood are favorite habitat. For their pre-lovemaking antics they need a clearing near these thickets, which is called the "singing ground." Early in the morning and late in the evening the male woodcock will spiral upwards from the "singing ground" making a whistling noise until he reaches the top of his rise then just as suddenly drops back to earth. Back on the ground, he struts and calls with a nasal "peent." This series of maneuvers is repeated time after time for the benefit of the female who supposedly is watching and awed by the whole spectacle.

Usually four mottled brown eggs will be laid in the nest which is subject to every predator that wanders through

the woods. Raccoons and skunks are the primary culprits and nest robbers. However, mother nature has given the woodcock the instinct to lay more eggs if the first clutch is destroyed.

When dog training season opens in August the young birds are mature enough that they will provide excellent sport for the advance training sessions. Timberdoodles under normal circumstances do not run but hold for the flush and therefore will not instill bad habits in the young dog being trained to hold steady to wing and shot. Another definite advantage is the fact that they don't fly very far. Fifty or seventy-five yards is about the extent of their flight, so if birds are a little scarce you may put the same bird up two or even three times. I wouldn't push him beyond that, however, as too much pressure could prompt him to move clear out of the country.

When the dog hits a point the bird will hold as you walk up, calmly reminding the pup to hold steady, gently stroking him to impart confidence. Usually this can go on for a full two minutes, sometimes even longer, before you should flush the bird before he breaks on his own. With cooperation such as this from the birds, you can accomplish more in two afternoons than you could in a week with the ringneck, who thinks every dog and hunter wants to run a footrace. If you expect your dog to hold steady I wouldn't recommend pheasants for training.

Humbling Device

The woodcock can also be a device to humble the fellow who thinks only grouse are worthy of his shooting ability. I have a friend who owns English setters and hunts them on nothing but grouse. My friend, Ben Gault, a wildlife artist, was having trouble with one of his setters.

"Let's run her with a good woodcock dog," I suggested; "It may give her confidence and a chance to find enough birds to put on the final edge you're looking for."

Lou Fruhlinger, from Windber, has the best woodcock Brittanies I have ever shot over and Lou and I manage to get out a couple of times every year. A

call to Windber set up the hunt for the following week. Ben wasn't entirely sure this was going to solve his problems and I knew he was a chauvinist about setters, thinking anything with a short tail couldn't have all its marbles in the first place. But the following Tuesday he picked me up with Glory, a beautiful tri-colored setter riding in the back of his Blazer ready to go. We picked up Lou and headed out to the dog pens. Lou was only using one dog today, Freckles, as he felt any more would confuse the issue.

After a few get-acquainted snarls the two dogs settled down and rode to the shooting grounds without incident—which suited me just fine, as I was riding between them on the back seat. The last thing I wanted was a dog fight with me in the middle. We pulled into the parking area and let the dogs out to stretch while we got our gear together.

We started into the first hawthorn patch. Glory, sensing competition, was overenthusiastic in covering the covert, and missed a bird Freckles locked onto.

"Okay, Ben, it's your shot," I called as Lou went in for the flush. And sure enough the bird broke to Ben's side and twisted through the thorn branches right past him. The little 20-gauge double snapped to his shoulder but it never went off.

"Where'd it go?" was all he could say. Trying to be polite I held back my snicker and just shrugged my shoulders.

"Come on, Glory, get in here," Ben called, a little more provoked than thought the dog deserved.

Glory was working just ahead of me and acting birdy when Freckles came casting down towards us. Wham! Freckles slammed on point twenty feet in front of Glory and me. Here was a real test, I thought to myself. But Glory passed with flying colors; she honored that point as soon as she saw it. The bird was flushed and I had the shot bringing it down in a burst of feathers. Glory went over and looked at the bird looked up at me and seemed to say here it is if you want it. Ben no sooner said, "She just won't retrieve, she'll find the downed bird but won't pick it up," when Freckles came over and



THE WOODCOCK is not only one of the finest game birds to hunt, but it will also put the finishing touches on the training of a young hunter and dog, helping both to understand the values of the outdoors.



snatched it off the ground right in front of her.

I didn't think any more about it and we continued through the thorn patch. Freckles had another point and Lou dropped the bird, with Freckles retrieving it. This went on all morning. I won't mention how many birds went past Ben but not a feather was seen to drop. Finally he said, "You know, this is a heck of a lot harder than I had thought." Now to get a grouse hunter to admit *that* was something and I felt the day was made.

After lunch Lou suggested we go up over the hill and hit some of the hardwood patches scattered along the mountainside. Glory had had the ginger worked out of her and was handling much closer now and doing an excellent job. She was finding birds and holding steady to wing and shot and backing Freckles when he had a point near her. The transition over this morning was unbelievable. We had just started up a small stream bottom when both dogs hit a point at the same time. It was fairly open on three sides and the fourth side only had a slight cover of brambles. Lou made the flush and the bird broke in my direction. A clear crossing shot and down he came. Before Freckles could regain his composure Glory had the bird and brought it back, proud as a mother with her first

newborn. If we didn't see another thing all day the trip was a complete success. Glory had found enough birds to regain her confidence and found that if she was going to compete with this short-tailed rascal she was paired with she had better start bringing the downed birds back. To say Ben was happy would be a gross understatement. Glory's retrieval really made his day.

The woodcock can also help the young shooter. He isn't going to knock many birds down on his first trip but he'll get to shoot a lot of shells and once he gets the hang of it he'll be a wing shot for the rest of his life. Both of my boys were trained on timberdoodles, as I was. In fact, Lou showed me the fine points of woodcock hunting over thirty years ago, and as each of my sons became old enough to hunt he patiently showed them how the twisting, spiraling target that whistled out from under their feet could be brought down.

Yes, the woodcock can teach humility and at the same time give a young win shooter the confidence he needs to look forward to the next hunt. It won't make him a good trap shot, as this hunting is snap shooting—if you wait it's too late. But then, most good field shots are not that good on the trap range anyway and most good trap shots have one heck of a time with my friend the timberdoodle.



GAME COMMISSION Executive Director Glenn L. Bowers, right, receives the Pennsylvania Award from Paul Ludtke, president of the Philadelphia Federation of Sportsmen's Clubs. The award, presented to Bowers for outstanding service to the Game Commission and the sportsmen of Pennsylvania, is the highest honor bestowed upon an individual by the Philadelphia Federation of Sportsmen's Clubs.



A Rifleman Bowhunts

By George H. Block, III

MY THUMB touched the familiar spot on my right cheekbone and I placed the bottom pin on my bowsight high on his chest. He looked enormous as he fed peacefully, only stopping briefly to test the air for danger. My wife and I had been on stand for two hours and had seen nothing. Then on the way out we stumbled onto him as we crossed the lane between two fields of picked corn. I held my anchor as he came directly opposite my position. About ten minutes of hunting time remained and he was about 45 yards away. He stood broadside, head down, eating corn, completely unaware of our presence. Shoot or don't shoot, I thought, it's now or never! Bucks his size don't give a hunter another chance. Reluctantly, I lowered my bow. The range was a little too far, and the light was fading rapidly. My equipment was good and I had practiced often, but what if I blew it and crippled such a fine buck? My wife and I watched him until all dark, then silently left him, undisturbed and feeding alone in that field. I spent the rest of the night second-guessing my decision. Maybe I should have shot. But I kept telling myself,

"It's early in the season, I'll see him again." Nevertheless, a nagging little voice kept saying, "Are you sure?"

Archery season. A month of fun and frustration—fun for the deer and frustration for me. I'm George Block, knowledgeable deer hunter. Noted for my outstanding buck hunting success. That is, during rifle season. I can tell you without hesitation that when I have a bow in my hand, I'm just not so good.

Our archery season begins in June here at my home in Eighty Four, for that's when I start scouting for a large buck (our deer are carrying antlers by then) and shooting at least four times a week in my yard. These practice sessions are one of my family's great pleasures. I shoot, my wife shoots her 40-pound Ben Pearson, my son Pat, when he's home from college, will be out with his 50-pound Bear recurve, and even friends drop in to kibitz. Occasionally my brother-in-law Jack Daniels and his two sons give me competition. Of course, being an outdoor writer who supposedly knows everything, I'm full of advice. I'll plunk five of my 1918 Easton shafts in the center of the target and tell the others, "Watch your anchor, re-

lease smoothly, don't let your string hand creep forward before you release."

Like the day I was giving a demonstration to a group of Boy Scouts. I had shown them the fundamentals and was now going to demonstrate the bow in action. I placed a target on a bale of straw, stepped off 30 paces, drew the bow, anchored, and released smoothly.



The only trouble was, I'd forgotten to remove my pipe from my mouth. To say I was embarrassed as I stood there in disbelief, only two inches of stem clenched in my aching teeth, would be an understatement. My head was still vibrating as I retrieved my arrow and explained, "That was to illustrate why you should never smoke a pipe while shooting a bow."

The archery season has always been a fun time in the Block household. I never took it as seriously as the later rifle season and often made it a family affair. My son Pat would go with Eileen and my daughter Kathy would follow me. Those were good days. We got very few deer, but it was something we did together. I still get a lot of kidding about running out of arrows in Warren County and going to town to buy more ammunition. The family remembers Eileen standing in a howling cold orchard for hours and refusing to shoot an old doe who was eating frozen apples because she felt sorry for her. Pat takes a lot of teasing about the big buck he missed because an opossum distracted

him. That was the excuse of all excuses. We still call it the "Great Possum Caper."

Those were pleasant days, but now my children are almost grown. Kathy is too busy dating to hunt, and Pat is a college student who is fully capable of hunting without his old man's help. I have a fine collection of whitetail bucks to my credit, but one thing is lacking, a good buck taken with bow and arrow. My wife did get a big-bodied critter in the late archery season a few years back, but he had shed his antlers and now she's after a rack. For all these reasons, and the fact I'm really enjoying the archery season more and more, I decided a few years ago to take this challenging form of hunting more seriously.

150-Lb. Weakling

Along with my increased archery interest came a Bear compound bow. Because I'm a 150-pound weakling, I shoot it at the 50-pound setting. My arrows are 1918 Easton shafts, custom built with Wasp heads. In the 1977 season for the first time, I would be using bow sight. While I shot very well on targets without one, I thought a sight might force me to pick a spot on the deer and aim. Every preceding year had missed at least one buck of 8 point or better when I shouldn't have. Shooting at the whole deer is a common mistake of archers and I thought maybe that was my problem. A sight might correct that tendency. My sights were set for 20, 30 and 40 yards. All summer I shot at distances ranging to 50 yards. I could stay inside a nine-inch paper plate practically every time at 30 yards and most of the time at 40 and 45 yards. Even my misses at the longer range were close. I was ready, or so I thought.

One major problem was nagging me. During this period of preparation, a my scouting had not turned up one decent buck. Most years I will know two or three bucks by name. But this year nothing. Washington County doesn't have a large deer herd in comparison with the northern counties, but to the hunter who works at it, they are there and some are big. I much prefer to hunt

ny home area, not just because of my knowledge of it, but because I can hunt t more often. Even when working I can till hunt every evening for two ours—the best two. My schedule during October is: hurry home, throw on camouflage clothing, paint face, grab bow and binoculars and take off. Super can wait.

That is the background for the scene escribed at the start of this article. Where had this big fellow been all those hours of scouting? Had he been in his area all along, or was he a stranger who had wandered out of his usual haunts? If a wanderer, I'd be hard pressed to see him again. Deer in this area usually don't start rubbing until mid-September and don't make scrapes until October is underway. For this season, it is difficult to use a scrape until mid-October, and their lack early in the season means nothing. So it was just guesswork that led me to believe he was local. At least I intended to hunt him. If I ever saw him again I knew I'd recognize him. Well over 200 pounds, heavy rack with a decent spread.

For a couple of days I hunted with nothing more than a couple of does to keep me excited. Saturday Pat was home from school and we hunted together. During the day we pushed and posted, taking turns on stand while the other beat the brush without success. Evening found us on separate stands.

Feeding As Before

Just before quitting time I walked out the lane to where I'd seen the big buck before. Sure enough, he was there, feeding as he'd been before. This time the winded me long before I could get into range and departed the premises. When Pat showed up I told him how big the deer was and how this was getting ridiculous. I'd seen him twice and still didn't know how he approached the cornfield. Pat and I discussed at length how the field should be hunted. We studied the possible approaches and decided that perhaps the small island of trees and brush in the middle of the field would be a good stand.

Monday evening found us back at our task. At one end of this 400-yard field



WE WATCHED AS Eileen left her stand, and there, 50 yards behind her, also observing her departure with great interest, was a large buck.

was a fallen-down farmhouse with good cover, and my wife talked about taking a stand there. After checking out the way the wind was blowing and considering the possibilities, she decided to post the edge of an adjoining cornfield where the deer frequently crossed. I walked to the lane where the buck had been spotted twice now and took cover. After about a half hour wait, two does fed into the top of the field about 200 yards away. They were soon joined by two fawns and a medium-size buck. Through my Bausch & Lomb binoculars I could see the buck was either a 6- or 8-pointer with about a 15-inch inside spread. Definitely not Mr. Big. I sat and watched as they fed about halfway to the fallen house. Suddenly one doe froze and craned her neck, staring at the near woods. I knew he was coming even before I saw him step out. This was simply frustrating! It was the third time I'd seen him and still no chance for a shot.

I watched him chase a doe around the field with nothing but romance on his mind. They definitely were feeding toward the old house where my wife had considered posting. This was the

time for a decision. Obviously they weren't coming my way. Could I stalk them? I checked the wind and immediately backed off from my stand. Once I got out of sight, I went to Eileen's stand and explained how I would attempt to circle and approach through the heavy cover at the old house. That way if I scared them they might run right to her.

Only One Shooting Lane

Making sure that all my arrows were covered by my bow quiver, I trotted across the field, cut up a fencerow and started my approach to the interception point. As I approached the house I could see the deer feeding about 75 yards from the fence line which separated the field and the thick cover hiding me. The ground was dry and it seemed to take an eternity to get within ten feet of the field. I'd put one boot down slowly, gently pressing the leaves and small sticks down before I let my weight settle, always keeping cover between me and the deer. Whenever one threw its head up I'd freeze, and move only when they were all relaxed. When I got as close as I dared, the deer were only 20 yards or so into the field. I knelt in the middle of some wild grapevines and waited for my thumping heart to quiet down. There was only one shooting lane, giving me about ten feet of field in which to shoot.

I was finally in position and all I needed was for that big buck to step into that ten-foot lane. The does crossed, the fawns crossed, and even the smaller buck crossed. Back and forth they went, feeding, unaware of my presence. At times they were as close as 15 yards. But did the big buck cross that shooting lane? No. I was beginning to feel someone was protecting him, for while he was so close to me I could smell him, he never crossed where I could shoot. At least not in daylight. I sat there until quitting time, then eased out, leaving them there unaware of the danger that had lurked so near. Luck so far had been with him, I thought. What else had kept him from stepping into that shooting lane while his friends did so many times? It was typical of my bow hunting exploits. Surely it would change.

Two days later I was out again. This time Eileen stayed at the old house and I went to the lane. As I approached my stand I saw two does and two fawns feeding away from my wife at the top of the field. Were they the same four that had been with the buck? I thought so, and this led to another stalk. This one was easy. I circled left through another field and came upon a thick fencerow where I should intercept them. Getting there was no problem. I even had time to clean leaves and quiet the place. This time I made sure I could

I WONDERED WHY THE DOE I was watching seemed alert. Something made me turn my head. There, not a dozen yards behind me, stood the big buck.



ver a large enough area to get a shot. The does and fawns came over a tall roll in the field and fed on the corn and alfalfa. One of the fawns even took a nap about 20 yards in front of me. I was hoping the buck would come looking for his girlfriend. Suddenly one of the does stopped, froze in her tracks and stared right at me. The breeze was hitting my left cheek, I hadn't moved, and I was well camouflaged. How had she become aware of me? I've hunted long enough to know she shouldn't have known I was there. She raised her leg and struck the ground repeatedly. All I could think was, "How did she know I was there?"

This went on for what seemed like minutes but what probably was seconds, when something made me turn my head. There, not a dozen yards behind me, stood both bucks! One fed immediately out of sight, but the other was looking at me or the doe. At this stage I was in no mental state to know. I lowered his head and I turned to my left a little. His head snapped up and he stared at each other. Down went his head again and he started feeding, walking slowly away from me.

In Position

I eased around some more until I was in a position I could shoot from. I raised my bow but couldn't extend my left arm; too many trees and vines. I swirled to my left, then my right. No way could I shoot. The distance was getting longer, 20 yards, 25 yards, 30 yards. That darned buck was casually walking away and I couldn't shoot. Finally by crouching way down, I could extend my arm and clear the bow limbs. I started my draw but found that in this position I didn't have the leverage to pull the bow. Finally I yanked with all my strength, the eccentrics on the bow turned over and I could bring it back to my jaw. By now the buck was 40 yards away, broadside and nervous. Sweat was pouring from me as I placed the bottom pin on his chest and released. The arrow sailed through the air and struck the ground at his feet. To this day I don't know how I missed so badly, but with all that preceded the shot, it was no wonder. Pieces of vine



THE BLOCK FAMILY can recall many reasons for coming home emptyhanded from an archery hunt, but Pat's excuse was probably the most original. It's known as the "Great Possum Caper."

were caught in my clothes and wound in my bow, and a large stick was tangled through my quiver. How could the Indians have possibly won?

Here I was, in total despair. Eileen kidding me, rolling around laughing, and I wondered where all that confidence I'd had in my bow had gone. If only I had my 270! Now that was a weapon which was a true extension of my being. People come to my house to see my deer heads and hear of my hunting prowess because of my effectiveness with that 270. Now, with the bow, I felt like a total failure.

But deep down inside I knew I was enjoying every minute. This buck had given me some real thrills, put me in my place and was still out there. It was like having your cake and eating it too. Were we through with him? Of course not. As fate would have it, now it was Eileen's turn. Up to this point she had seen him only once, but he must have tired of playing games with me, for he was to turn to a new victim.

Pat was home again and evening found us posted on our respective stands. I had found a scrape in some heavy cover and had been watching it for a couple of evenings, so I headed there. Pat was on the lane where the buck had been spotted the first two times and Eileen had chosen the island of trees in the field about 200 yards from Pat, but within sight of him.

My stay was uneventful except for two red foxes, which were either fighting or feeling amorous. They performed their antics around me for about a half hour and I only regretted not having my camera. At least those foxes told me I was well disguised, for they often were within a dozen steps. On the way out I would pass Pat and meet my wife at the old house. As I approached my son, he signaled me to be quiet. Very carefully I came up behind him and he pointed out toward his mother's stand. There was Eileen, leaving her stand, and 50 yards behind her, watching her departure with interest, were two bucks. Mr. Big and his smaller friend were standing safely right in front of her stand! Oh, how we enjoyed telling her about the extra four eyes watching her. If she had stayed five minutes longer she might have got him.

Does, does and more does paraded by my wife and me the last week of the season. Eileen said she was tired of seeing the same old girl and her twins every day. Mr. Big was making himself scarce.

Last Day Sad

The last day of archery season is always a sad day. Like vacation time, the end always is a letdown. We trudged forth for our last go at it. This had been the most enjoyable archery season of all. We would joke about the large buck and he would get bigger with each telling. Now we were ready for the last fling, Eileen at the island, me at the scrape.

That had to be the most worthless scrape in the county, for once again I saw nothing. Meanwhile, Eileen saw only her old girlfriend and children. It was about ten minutes until quitting

time and my wife got the usual hunter's curiosity. Thinking about those two bucks watching her from in front of this very island she was standing in, she wondered what was on the far side. Maybe some rub trees? Cautiously, she stepped out into the field at the end of the island, followed a trail around behind and came across two fresh scrapes. Now she knew why those bucks were hanging around her island, and with mounting excitement she hurried along the back side of the island to the point and eagerly looked around the front. Guess who was standing there glaring at her. Furious at him and with herself she froze in her tracks as he bounded over the hillside.

Just about then I came out the land and she said, "That rotten deer! If I just had my 270!" We both broke up with laughter. That big buck had beaten us at our game, but we had won too. Only another hunter could understand that.

Postscript:

It was a Monday, a full month later. Snow covered the ground and I was leaning on a gate overlooking the field where most of the previously described action had taken place. There was movement in the trees to my left and brought the 270 to my shoulder. It crashed in the stillness and a large buck was down. As I approached him I knew who he was, for we had competed for a month and he had bested me in those meetings.

Every deer I have taken has some special meaning and this large 8-pointer gave me more than most. He weighed in at a very respectable 194 pounds hog dressed. His antlers were heavy with a good spread. Not record book size, but definitely high in my book.

The Game Commission is permitted to accept donations of money or land from any person, association, corporation or firm. Contributions are tax deductible. Funds received go toward purchasing State Game Lands, which are used by hunters and non-hunters alike, and for other wildlife management uses. Persons or organizations who make such donations show their sincere interest in and support of conservation in Pennsylvania, and the Game Commission expresses its gratitude for their contributions.



THICK TANGLED CORNERS LIKE THIS, especially if near a field, provide cover for smart roosters. Hunters try to force unseen birds toward open field.

The Pheasant's Bag of Tricks

By Mort Grossman

MY SON'S VOICE came to me from 15 yards to my left as we moved through the cornfield. "I don't understand it, Dad. We haven't seen anything! Why don't they fly?"

"They will, Jeff," I answered, "but only when they have no other choice. See, we're coming to the end of the field now. Look sharp."

As if the pheasants had heard me, two roosters and a hen broke cover in the shoulder-high weedfield. Their wingbeats startled us with the harsh music every hunter loves to hear. I swung the muzzle of my 12-gauge through the cockbird to my right, and pulled the trigger. Feathers flew and the bird came down. Behind me I heard Jeff's 16-gauge go off and his cry, "Got him!"

Our shorthair, Brandy, was already off after my bird. She brought the rooster back and sat on her haunches for the handover. It was a fat bird, and I could almost taste him already,

covered with mushroom sauce, on the dinner table.

Jeff walked up behind me, his face a Christmas wreath of smiles. He had his bird in hand, another beauty. Brandy jumped up and sniffed the new bird. I think she resented Jeff's fetching his own game. "That's my job," her eyes seemed to say.

I checked my watch. It was 11:45 and these were our first shots of the morning. We had arisen at 5 a.m. and my stomach told me it was lunch time.

Jeff and I sat down on a small rise above the weedfield which we had been given permission to hunt. Fishing lunches out of our game bags, we began to eat. Brandy seemed restless. She made several small passes in the direction of the weedfield. "Go, Brandy," I said. "Find the bird. Go!" Dutifully, the dog trotted off.

"Why'd you tell her to go, Dad?" Jeff asked. "We've been through that

field. There's nothing in there."

I motioned for silence. "Watch," I said quietly.

Brandy reached the edge of the field. She sniffed about for a few moments and then struck scent. Quickly she followed it into the field and out again. She paused, lifted her paw in characteristic fashion, and then was off again, this time into the hedgerow bordering the field. In and out she worked. No more than two minutes later, a rooster walked out of the row, headed for some corn. Jeff reached for his shotgun. I held him back. "Watch," I said, "and you'll learn something."

Brandy came out of the hedgerow. She had not seen the cockbird leave his cover, but she was hot on his trail. She entered the cornfield and as she did so, the bird came out again, 20 feet south of Brandy's entrance. And we sat, watching the silent show.

The bird headed for a large wild cherry tree, making sure he crossed his former path. He circled the tree six or eight times and then headed off in an entirely new direction, toward a thickly grown ditch behind us. The bird stopped as soon as he reached sufficient cover.

Now Brandy emerged from the cornfield again. She followed the spoor to the tree, circled it as the bird had done and then paused. Just as the bird had planned, the scent had run into itself and the dog was con-

fused by the covering of the cockbird's tracks. Pitifully whining, Brandy returned to us. I gave her a biscuit and she settled down to gnaw at it and sulk a bit.

"Did you see?" I asked Jeff.

"I saw," my son said. He picked up his shotgun, loaded it, and began to move toward the place where the bird had holed up.

"Circle around and head from the thick cover to the thin," I whispered. He did and the bird had no choice but to break cover and fly. It lifted almost straight up and Jeff gave it a moment so his modified choke wouldn't destroy the meat. Two shots rang out and the wily old bird dropped to earth. Brandy, watching intently, brought it back, her biscuit forgotten in her tender revenge.

All in all, that was a good morning. Naturally it makes a man happy to get shooting and game, but I think I get as much pleasure when I'm able to show my son some of the little tricks nature has up her sleeve to fool the inexperienced hunter. We all have to learn these tricks the hard way, and every hunter has his own bag of tales to tell. It is not only fishermen who can speak of the one that got away.

It seems to me that pheasant hunting has the greatest mixed bag of lore to it. I like deer hunting, but there the quarry is furtive. To lurk or slink seems to be his *modus operandi*.

RINGNECKS OFTEN PREFER running to flying, but sometimes will flush when pushed from high cover into areas having less concealment.



Pheasant hunting presents a different kind of challenge (sometimes too much so) and an old cockbird's strategy can really test a man's mettle.

On the opening day of Pennsylvania's small game season, every hunter is out in the field. I believe that fully 75 percent of the pheasants shot all season are brought to bag in the first hour or two of that day. The rest of the small game season is like my typing, hunt and peck, with the lucky or knowledgeable hunter bringing in the birds.

There is no doubt that pheasants would almost always rather run than fly. Almost the only time they'll fly is when they can find no other avenue of escape; when they have been run from thick cover to thin; when their nervous system (highly developed for a bird) can stand the tension of a standoff no longer; or when they have been transfixed by a hunting dog's point and must escape the advancing hunter.

The darn bird even likes to run and hide in marshy lands, where usually only web-footed creatures make their home. This is certainly not a subconscious action. I believe the pheasant goes there because the marshy ground is too tough for the average hunter. Naturally the cover is heavier in these wetlands, too, and this also helps protect the birds.

My son and I sometimes hunt an area along the Schuylkill. It is a low stretch, about a mile long and some 200 yards wide. A road runs along its landward side, 50 feet above the river. On opening day, all the hunters in the area take their pheasants in the weedfields half a mile away from this stretch. We wait near the river's edge, in the cover and sinking into the oozy marsh, and before long the cockbirds start coming over. They're easy shooting, but pulling one's boot out of the muck isn't so easy and I'm sure the pheasants count on that when they seek sanctuary there.

Naturally our German shorthair, Brandy, helps a lot. Matter of fact, I'm not sure which is prettier: Brandy

on scent or a flushing bird. Brandy works close and we like that. If she worked at a great distance she might put up the birds at too great a range. That's worse than having no dog.

The really amazing thing about pheasants is the amount of lead they can carry. Six pellets out of my 12-gauge will usually do the job, but I have seen these birds take two or three times that much and fly to cover. Last year we were hunting a piece of land along the Perkiomen. It was three weeks into the season and the game was thin. By 2 o'clock in the afternoon we hadn't dirtied our barrels and thoughts of home and a soft chair were piling up. Up ahead we saw a man and three boys hunting; they were too close together and I paused and commented on this to Jeff. At that moment they raised a bird and all four took a shot at it. I saw feathers fly at least three times, but that bird survived to fly to cover, and the group never did find it. About an hour later, as we worked our way back to the car, we found that bird. Pheasants are sure tough critters.

Hedges and Fencerows

Unless a man is hunting in a party, his best bets as a solitary hunter are the hedges and fencerows and along the edges of a body of moving water. Working one's way through these areas is fruitful, but it's necessary to keep one eye open in front and one eye open in back. Like deer, cockbirds love to squat in cover and watch the hunter as he takes his shotgun for a walk. A smart hunter will walk a few yards, stop and slowly turn . . . then wait and count to 20. Many a bird has gone to its reward after flushing because of a hunter who outstared him. I've taught that trick to my son and many times he'll do it when we're flanking a hedgerow. And while he's busy looking back where we've been, I sometimes manage to get the shot at a pheasant that flushes up ahead. Pheasants aren't the only ones with a bag of tricks.



NIGHT HUNT

By Tom Jordan

EVERY YEAR, just about when the mornings on our farm eight miles south of Kane were getting that certain tang to it from our early autumn, Larry Wilson would come around to see how the corn was doing. Not that he was interested in the corn itself; he wanted to know what was happening to it.

"You been seeing any places where they're starting to hit it?" he always asked me.

"Yeah. It looks like they're starting to work on it at the lower end, next to the woods."

Larry nodded and took off to have a look, and after a while came back. "Naw, them weren't coon," he said.

"Sure looked like it to me," I said. "What was it then?"

"Coon work it different," Larry said. "This looks more like it was porcupine or skunk, or even possum."

"Do they all eat corn too?"

"Heck, yes," Larry said. "Everything eats corn."

About a week later he came around again. "I've been down in your cornfield already," he told me. "They're starting to hit it pretty good now. We'll be coming around tonight. If you want to come along, we'll stop in and pick you up." I told him I would. If, up until a couple of years before, you had lived in the city all of your life, how often would you have had a chance to go on anything like a coon hunt?

The October night was without a moon, dark and on the verge of chilliness, when Larry's car pulled into the yard. I hastily donned a heavy woolen shirt and got into my cold weather boots. He was alone this time but I could hear the muffled sounds of the dogs in the trunk of the car. We drove down the farm lane, went up the road about a quarter of a mile and then pulled into the field next to where I had the five acres of picking corn.

We got out into the darkness and I held the flashlight while Larry charged up the carbide lamps. He had a large economy size can of carbide at home, donated by a grateful coon-hunting friend who worked at the plant. It was not until I had gone on one of these nocturnal hunts that I learned how water dripping onto the chemical produced the gas that created the light. The carbides were used because they were the cheapest way of making light, of course. But for the really bright stuff Larry had a headlamp powered by batteries that he carried in his pocket.

Impatient Sounds

By now the dogs were making markedly impatient sounds. The trunk lid was lifted and Larry reached into the squirming mass of bodies for collars to which leashes were snapped. Then the dogs were out and one's first impression of them was their size. Black-and-tans are big sleek dogs; if they were long-haired like a collie, they'd be enormous. They came snuffling up to me, each in turn, as if to allay any consternation, mouths like warm, damp velvet. Larry handed one of the three leashes to me.

We walked along the end of the cornfield toward the woods, and then followed along the edge of it, pulled by the straining dogs. Larry paused to look at some damaged stalks, the ears of which had been shredded. I thought a coon had done it, but he told me it was the work of a porky. It all looked the same to me. Anyways, I was more interested in the condition of the corn—whether the kernels would dent by the first killing frost. That was always a worry in this high Allegheny country. If they didn't dent, the corn would be soft and of no use as grinding corn for cattle feed. It would be all right for silage, however, but we already had a

ten-acre field on the other end of the farm for that purpose. While I was mulling over this we came to an area where the ears had not only been chewed off but the stalks had also been trampled down. The dogs snuffed about in the carnage with great interest while we tried to pull them away. I knew from past experience what made it look as if a bunch of hogs had been on the loose in there. So did Larry. "I see you got a bear in your corn again," he said.

We went past the area, getting the dogs interested in coon again, while I thought of that night, a year or was it two earlier, when a sudden knocking sounded on my door at an hour when I should have been in bed. It was Ernie Huckabone, who lived almost two miles away on the hardtop and was my nearest neighbor.

"I saw your light was on," he said. "Thought I'd drop in and ask if you wanted to see the bear that's been in your corn."

It was a frosty, star-flecked night. There was even a flickering of northern lights, a faint sweeping veil of luminescence undulating across the northern horizon. We drove up the road until we reached the cornfield and went along it for a ways. Then Ernie stopped and turned off everything. He had a hand spotlight on the seat beside him and he now reached it out through his open window and flicked it on. The beam of light swept across the field, wavered back and forth a moment and then settled.

"There they are," he said.

I saw nothing. Straining my eyes into the void, I wondered vaguely at the

plural of the word. Then suddenly they were there, three bears instead of the one I was prepared for. A couple of weeks earlier they would have remained hidden in the corn. But now it was frost-bitten, dried leaves dangling, tops bent over and the ears drooping, ready for picking in a few days. So now the bears were seen easily as they arose, the mama bear towering over the corn and heads of the two cubs just reaching above it. The light held them there for the longest moment.

"Well," said Ernie later as we headed back down the road. "Now you'll know where to go hunting when the season comes around."

I thought of the way the three bears had poised there for a moment before they fled, a tableau not to be witnessed in another lifetime perhaps. "No, I don't think so," I said.

Plunged Out of Sight

But now we were near the lower end of the field, the dogs straining more eagerly than ever on their leashes. Larry bent down and released his and I did the same. With a few yelps of elation, the dogs cast about in the brief flickerings of the lamps, then plunged out of sight in the corn. Almost immediately one gave a series of deep, bellowing bays. In another moment the others joined in, creating a cacophony of sound. The dogs swirled through the depths of the cornfield, then headed for the woods in a flurry of rustling corn.

The chill I had felt in the air was supplanted by a warm glow of anticipation. Larry listened for a moment longer.

"Well, it looks like we got a good one this time," he said.

He took off after the dogs, with me trailing along in his wake and experiencing my first tinge of apprehension. I had been out with him and his friends several times before, but we were alone now and I had the feeling he was quite free of any restricting influence others might place upon his activities. I suspected I might be in for a rough night. Larry comes in a large economy size, being six foot two and over 230 pounds, and wears seven league boots as well, which he now



proceeded to make impressive use of.

Outdoorsmen like Larry need have no regard for the difficulties of terrain. Brush, dense forest growth and deadfalls seem to give way or vanish from underfoot as if by magic. While I struggled with these natural obstacles, Larry strode off ahead of me, unimpeded by it all. He was pretty much in his element. By day he walked oil and gas leases, measuring production. In the evenings and on weekends he trained bird dogs. Then of course there was his hobby, which was this—coon-hunting. In the wake of these superior qualifications, I floundered along as best I could.

There came a moment when Larry halted some distance ahead of me, giving me a chance to catch up. He was at the edge of a slope listening to the dogs in the valley below. Their baying rolled off through the valley and set my collie dog back at the farm to barking, and then the dogs at the farm on the highway. There were no farms after that and the sound lost itself among the distant ridges of the Alleghenies. But it was a fine thing to listen to with the orange harvest moon starting to come up over the ridge now, its movement readily discernible if you paused long enough to watch for it.

But Larry was already plunging into the darker recesses of the valley and I had to cease my poetic woolgatherings and launch myself after him. We dropped into the blackness, our lamps—mine especially—hard put to light our way. I had been aware for some time, and on previous hunts as well, that while Larry's lamp gave forth a fairly creditable luminosity, mine gave off but a pale imitation of it, with the result that my nighttime endeavors were further encumbered. It did no good to adjust the flame, which I spent an annoying amount of time doing, and I finally concluded that the difference was due to the reflectors; his was large and shiny, mine was small and tarnished. So I floundered along as best I could in the semi-darkness.

After we went through the valley a ways, Larry halted again to listen. The dogs seemed nearer now and their sound came from a higher elevation. The barking was intermittent, with

stretches of silence in between. Sometimes only a short bark or two would break the silence, then there would be a series of bayings, with all the dogs joining in.

"It sounds like they're heading up over the ridge now," Larry said, turning abruptly toward the steep slope on our left.

"How do you know they're not after a bear?"

"Naw, they'd sound different if they were." Larry went up the steep grade with the finesse of a mountain goat and was taking a breather on the ridgetop when I finally arrived. But I noticed he was breathing a bit heavily too, now. Aha, I thought, it's finally getting to him. But no such luck. He barely gave me enough time to get my own respiration halfway back to normal before he was off again, his seven leaguers chewing up the yardage.

The dogs were far down the ridge now, their baying sounding a bit eerie in the brightening moonlight. It was easier going on the crest of the ridge, the hemlock and black cherry being more massive and wider spaced there. It had not been logged for a long time, so there was little debris to hinder our way. It was a pleasure walking up there, the moon smaller and brighter now, sailing along between the towering bulks of the hemlocks. Ahead, the sounds of the dogs drew us on.

Looked Down on Hawk

I had been on that ridge several times before in winter, hunting deer, and once I had been there in early fall. I'd looked down on a hawk hunting in the valley below, and thought how much the valley looked as it had when the first settlers paused there a century and a half earlier.

Now, Larry paused to tend to his lamp. Its flame had waned perceptibly and he had now taken a cat-whisker-thin wire from amongst his effects and proceeded to ream out the orifice. He was rewarded by a healthy hiss and an instant rejuvenation of the flame. He did the same for mine but the results proved negligible. While we were immersed in this delicate procedure, we became gradually aware that we hadn't

heard the black-and-tans for some time.

Larry stood quietly for a time and listened, then found a storm-downed tree and settled himself on the trunk. I was quite happy to do likewise and eased myself down with a grateful groan. On other hunts when the dogs' soundings ceased for any length of time, we stopped and listened and waited, and soon heard the soft padding of their feet and suddenly they were there with us in the dark, their wet noses snuffing our hands. We waited now, but this time the dogs did not come.

Long-Drawn Howl

Then we heard them again, a long drawn howl at first, as if to indicate a renewal of the chase, and no longer ahead of us on the ridge but down in the valley on the other side of us, and going the other way.

"That old boar coon is really giving them a run for their money," Larry said. He jumped up with newfound vigor and headed down the other side of the ridge. There was nothing for me but to tear myself from the delectably comfortable seat I had discovered on a fallen maple and follow suit.

We went down into the valley, crossed it and climbed the other side, because that was where the dogs went. We followed them along the ridgetop and then suddenly there was another valley, the dogs howling in it down below. I knew where we were inexorably headed now. I had been there before. It was the turn-around place. There was something about the lay of the land in this area that always managed to turn you around, no matter how well you watched which way you were headed. But Larry appeared oblivious to this, or at least undaunted by it.

It was the place where some years before one of the hunters staying at our farm had come upon a stranger sitting before a fire. Nearby in the snow lay the carcass of a deer, frozen stiff as a board and looking as if it had been dragged quite a ways.

"Hello, there," said the man, smiling cheerfully. "Would you have a cigarette on you? I'm dying for a smoke. I ran out last night."

"Certainly," said our hunter, extending his pack. "Take as many as you want."

"Very well, I'll take a couple."

"Did you say you ran out last night? You mean you spent all night here?"

"I'm afraid I did," said the other hunter, smiling ruefully.

"I'll be darned. It was pretty cold last night. This morning the temperature was only about 14 above zero."

"Well, it wasn't the Waldorf Astoria, but I really didn't have much choice. About the third time I dragged that deer back to the same place I'd been before, I decided I'd had enough. It was getting dark then and I knew I was stuck here for the night."

"Well, you certainly don't seem the worse for it."

"It wasn't too bad. All I really missed was a smoke. I had a sandwich and a couple of candy bars and curled up next to the fire. At times it even felt cozy," said the stranger. "But now I'll have to ask you for directions back to the highway."

"You shouldn't have any trouble following my back trail through the new snow. When you come out of the woods, just go straight ahead and you'll hit the highway."

"I'm much obliged to you," said the man.

"My pleasure," said our hunter with the utmost sincerity. It wasn't often that you ran into so much cool fortitude.

The baying of the dogs had lessened again and seemed farther away than ever. It was difficult to tell exactly which direction they were now. The sound echoed and re-echoed through the valleys. Above us the moon sailed higher and smaller and I was acutely aware of a growing weariness.

"Where in blazes is that coon taking them dogs?" I asked, doing my best to hold down my exasperation.

"Doggoned if I know," said Larry, his tone giving me some encouragement. "Sometimes they run all night."

"Maybe it isn't the same coon they started with."

"You got me there," said Larry. "We'll never know, that's for sure."

He looked at his watch then, the first

time I had seen him do so. He started off again but this time his direction appeared aimless and lacked his usual purpose. Even the far-off baying of the dogs seemed to be lacking in that which had inspired his earlier efforts.

"Well, it's two o'clock and they sound like they're headed for the next county," he said. "Guess you and I had better call it a night." He turned to his left then and I followed along behind, quite willing to accept that home lay in that direction. I had been turned around quite thoroughly on the last couple of changes we had made, and I was perfectly willing to accept any decisions he might make. Besides, he had a good sense of direction and a lot of experience to go with it.

After we had gone up hill and down or quite some time, I thought of something. "Hey, what about the dogs?" We could no longer hear them.

"Don't worry about them," said Larry. "I'll just leave my jacket behind and when I come back in the morning they'll be waiting there by it."

We went on some more. Finally I heard the gurgle of water in the dark ahead of us. It was the run that crossed the road below the farm. We had jumped it several times during the night.

"It won't be long now," said Larry, his voice quite relieved, I thought. "It'll be clear sailing down to the road."

We followed the tiny stream so long

that even Larry began to show signs of agitation. We should have been out on the road, yet here we were, still slog-ging through the woods, no end yet.

"By golly, we should have come to the road by now," said Larry.

I was beginning to worry. Since neither of us had a compass, I cast about for some means of telling direction, but saw nothing useful. There was the moon, but now it was directly overhead and I had no way of telling the direction from which it had risen, or was setting toward.

"We sure as heck must be going the wrong way," I said.

"I don't know how," said Larry. "The crick is on our left, so we must be going the right way."

"But maybe we're walking on the wrong side of it," I said.

There was nothing for it but to get down on our knees next to the stream and try to figure out the direction the water was flowing.

"Son of a gun," Larry said finally. "It's going the wrong way."

The only redeeming feature of the long walk back was that it was on the level. When we got back to the car, Larry left a small rug there for the dogs to come back to and dropped me off at the farm. Five minutes later I was dead to the world. But I must have kept on climbing those ridges even in my sleep, because I was still feeling the effects of it well into the next day.



The Responsible Hunter

By Ted McCawley, Jr.

MOST SPORTSMEN enjoy hunting with congenial companions who speak the same language. However, they live in dread of getting stuck with some thoughtless or careless character who either doesn't know or ignores the basic rules of good manners and how to behave in the field. They make that sort of mistake with the same individual only once.

Yet unfortunately, such thoughtless or careless hunters do exist and, though their numbers are few, their actions are all too often viewed as typical by critics of the sport.

The hallmarks of a responsible hunter and a good companion afield go way beyond just obeying the formal laws relative to trespass, bag limits and seasons. In essence, they involve a basic respect for the bird or animal being hunted. For example, it might not be against the law to shoot a pheasant on the ground, but a true sportsman wouldn't do it.

Such a person tries to learn as much as possible about the game he or she hunts. Waterfowl identification is especially important to insure that only species that are legal are taken. Knowledge of wildlife management is also helpful. The responsible hunter takes an interest in programs to improve habitat through planting of food and cover crops.

Equally important is skill with firearms to insure quick, clean kills. In addition, such people regard game as a delicacy for the table and never waste it. If hunting on private property, they make it a point to share game with the landowner.

A responsible hunter who wants to be invited to hunt with others more than once should also follow a few

unwritten rules of field demeanor. With experience, these will come naturally; but novices, in particular, should make a conscious effort to follow them.

Above all, never take a chance. Observe all the rules of safety, even if your companion doesn't. You will impress him with your caution.

Give your companion all the breaks. The accepted practice is to alternate on single shots. The easiest way to irritate your partner is to try to "wipe his eye."

Find out which side your companion shoots from, and then take the other side. Never shoot at birds flying his way. It's an act of real discourtesy to shoot across another gunner's front unless you know he has an empty gun. Even then, you should explain your action afterwards.

Claiming birds you didn't actually hit is another no-no. If there is the slightest doubt, give it to your companion rather than being branded as a "claimer."

Don't try to handle your companion's dog and never criticize the animal's shortcomings. Praise good dog work and ignore the bad. Give the dog a chance to retrieve your birds and look for them yourself only if absolutely necessary.

A cardinal rule is never to hunt in your friend's favorite spot which he has shown you unless he is along or has given his consent. Violation of this courtesy could lead to the end of a fine relationship.

There is an old saying to the effect that, if you want to find out about a man, get him in a poker game or take him hunting. Remember that when you accept an invitation, and see that you conduct yourself so that you will warrant a return engagement.

Above all, emphasize the basics of hunting ethics to all of your associates and to youngsters who may just be starting the sport. Responsible hunter behavior may not change the vitriolic anti-hunter's point of view, but it will certainly go a long way toward persuading the general public that hunters are decent people who do care about wildlife. The irresponsible few, on the other hand, do us all great harm.

Beagles and Bunnies

By Shirley Grenoble

"TAIN'T NO accountin' for what a rabbit chasin' does to a man," my father-in-law used to philosophize, "it's past all understandin'."

Even though he is gone now, I can still see Dad sitting on the woodbox on the porch, listening intently for the sounds that would tell him that Ken, his son and my husband, and Andy, the best rabbit hound in the state he always said, had a chase going in the bottom-lands across the road. Then he would lean back and just listen until all was quiet again. Long before I ever went rabbit hunting myself, I learned that there is something special, almost hypnotic, about a beagle barking after a bunny.

You can feel that special excitement whenever you turn a beagle man (should I say a beagle person?) and his dogs loose in a favorite cottontail patch. And doesn't every outdoorsman have such a special place where rabbits are plentiful but other hunters are few? A place where he goes if his spirits need a lift or he just has the hankering for the sound of beagle music?

It's been my privilege to enjoy several such bunny heavens in various parts of the state. I cut my hunting teeth on rabbits and in just such a place. It was a relative's farm in Centre County where overgrown fields were bordered by brushy fencerows and old stone walls. Berry briars, sumac, weeds and brushpiles offered food and shelter most of the year, and stands of young pines provided excellent winter cover.

Many a rabbit from that farm became stew at our house, although many more escaped unscathed to be chased another day.

My first few trips to that farm taught me some never-to-be-forgotten lessons. The first day of dog training season that year, Ken announced his intention of



going to Elmer's farm and running the dogs. I tried to dissuade him—he was on crutches from a recently broken ankle—but he was determined. So I informed him I was going along, to go for help when he fell and broke the other leg.

Just a bit behind Elmer's barn there was a jungle of briars. Ken ordered favorite beagle No. 1, Andy, and his female sidekick, Gypsy, into it.

"Go around to the top side and wait," Ken told me. "If anything pops out you'll probably see it."

Well, I sure did see it! On my way around, a rabbit rocketed out of the weeds at my feet and nearly startled me out of my sneakers.

I yelled for Ken and he brought the dogs over and put them on the trail. They took off, baying furiously on the hot track.

Photo by Thad Bukowski

COTTONTAILS ARE the first game for many youngsters—and continue to be favored quarry for the rest of a hunter's life, as countless Pennsylvanians know.



Right then, I learned the one absolute in rabbit hunting. "When a rabbit is pushed by dogs, it will eventually head back to its home area, which for this rabbit is probably that briar patch," Ken instructed me. "I'm going to stay with the dogs. You stay here, pick a spot where you can see around a little and watch for the rabbit coming back."

I watched Ken hobble off, amazed at how skillfully he maneuvered the crutches through the weedfield.

Good a Place as Any

I decided to stay right there. It seemed as good a place as any. The dogs' barking grew fainter and fainter until finally they were almost out of earshot. But after awhile I detected their insistent voices growing louder as they headed back my way. I could feel my excitement rising. The rabbit had to be ahead of the dogs. Was I in the right place? Would I see it? Should I move?

Then there was a telltale ripple in the weeds and I saw the rabbit, just hopping along. Sure enough, it cut into the briars.

That first taste of rabbit hunting whetted my appetite for the sport. Two decades later my enthusiasm has diminished not a bit.

I learned quickly that seldom does a rabbit chase have the storybook ending that first one did. It's true that a cottontail routed from its cover and pursued by a dog will make its way back, eventually, to its own bailiwick. But how it does so is another story, and therein lies the charm of the chase.

Some rabbits will run more than a hundred yards ahead of the dogs, making long, graceful sweeps around their domain. Others, probably veterans of rabbit chases, stay only a short distance ahead of the dogs, and by means of short jumps and abrupt turns lead them on a zigzag course which can be difficult to unravel.

Sometimes a bunny sits tight till the dogs are almost breathing on it, then it zips ahead, at first taking long jumps and changing directions, then sitting tight till time for the next spurt.

Some bunnies seem to enjoy the chase as much as the dogs do. They just

hop along, keeping a safe distance between themselves and the dogs. One rabbit may zip directly to a hole when flushed; the next will run several circles before someone intercepts it or it holes up.

These are the factors that make pre-season training sessions so important. Beagles have to be persistent and learn how to make circles to find the scent after they lose it. They must learn not to backtrail nor to be sidetracked onto another scent trail (another rabbit, a deer, a fox or even a cat). And, at least in our case, there is usually a young dog or two whose skills are sharpened by running with the old dog.

Without doubt, one of the most important lessons ever imprinted on me happened during a dog training session at Elmer's farm. The beagles had a rabbit running and everything seemed to be going along about average. I was posted at the end of a fencerow that separated a cornfield from a weedfield. As the dogs started down the far end of the fencerow, I saw a flash of brown scoot from into the weeds. Occasionally I glimpsed bits of brown as the rabbit slipped along through the thick cover.

What an easy shot, I thought. If this was season, I'd have that rabbit for sure.

Then the rabbit made a small circle in the field and stepped out of the weeds into the open. I was truly chagrined to see that the "rabbit" was actually a hen pheasant!

Only then did I realize that the dogs were racing off in another direction and weren't chasing this hen at all. She'd gotten nervous when the beagles got too close and just moved out of their way.

So whoever said, "Don't shoot till you see the whites of their eyes," must have been a hunter and a heap-smart one at that! To this day I take no shot until my target is identified beyond any possible doubt—and then I take another look.

Only one out of five rabbits lives beyond its first birthday, which is not surprising when you realize just how many species (cats, dogs, snakes, hawks, foxes and man, just to name a few) prey on



Photo by Don Shiner

SOMETIMES A CHASE results in a kill, sometimes the rabbit escapes to run another day. No matter. Either way gives a hunter a reason to discuss things with his pal.

the rabbit. But what he lacks in longevity he makes up for in productivity.

Paul Kelsey of the New York State Division of Fish and Wildlife said, "A pair of rabbits which will normally have about four litters each summer, each consisting of at least four young, could have over thirteen thousand progeny by the end of their fourth summer."

Whew! But since only about 10 percent of the population is needed to maintain stable numbers, the rest are just wiped out—that is nature's plan.

That a rabbit will run a roundabout course for home when pushed by a hound is about all the certainty you can enjoy when rabbit hunting. With each new chase the gunner must try to figure out just where to intercept the returning rabbit.

The scenario goes something like this: Tom, the youngster we've brought to our favorite bunny patch in Bradford County, has kicked out a rabbit. It tears across a small clearing before disappearing into the weeds. He gets off a quick shot but misses.

We put the dogs on the scent and the chase is on. We stand listening, enjoying the hound music and waiting to see which direction the chase will turn. The

rabbit runs a long way. The dog's tonguing grows faint.

"They're veering left," Ken shouts to us. Tom, my son Mark and I hurry to our left and spread out, making sure of each others' positions, and wait.

The rabbit keeps coming and the barking grows louder. Everybody tenses, feeling the same expectancy that's generated on a deer watch. Suddenly the dogs stop sounding. What's the matter?

Haven't Given Up

The dogs haven't given up, so the rabbit must have made some tricky move. But now we must all be especially alert. This bunny has fooled the dogs, perhaps by a sidelong leap or by running down its own backtrail and then jumping to the side, or even by swimming across a small creek (oh, yes, they do swim). It will then try to make its escape by hopping along the edge of heavy cover, pausing to listen for the dogs (much the same thing whitetails do when pushed by drivers), then heading out for safer cover.

At such times the rabbit, as it slips along unhurried by the dogs, will often blunder into the hunter, offering an easy shot provided that the hunter does not spook it by excess movement.

Prince's sudden confident voice jolts us all back to alertness. Then, 50 yards in front of us, the rabbit squirts out of a grass clump and crosses in front of us all—in the open but too far away for a shot—the dogs in hot pursuit.

Rabbit and beagles run nearly parallel to the first trip around, again veering to the left. We stay where we are. The rabbit makes a somewhat wider circle this time. Soon the dogs are coming straight for us again. We all strain to see any movement. Abruptly the dogs stop. Again we wonder, has the rabbit holed up?

No, the rabbit has held tight. The dogs, which are making small circles to

locate the scent, get too close for the cottontail's comfort. From my perch atop a small brushpile I see the rabbit tear out again. This time it runs directly away from us for a hundred yards or so, then turns slightly to the right.

"It's heading for that patch of woods," Ken yells. So Mark and Ken run for the woods, hoping to arrive before the rabbit does.

But the rabbit does not go into the open woods, preferring the cover of the weedfield, and heads right back for the area the men had left. When I hear the dogs headed that way, I leave my spot and run over to where Mark had been. I notice Mark and Ken coming out of the woods and heading back toward us.

The rabbit keeps veering sharply and I catch just a glimpse as it runs through the spot I have left, almost crossing my boot tracks. "Tom, watch behind you!" I yell.

Baroom! Tom's 20-gauge single ends that chase and there will be hasenpfeffer at the Williams home this week.

Rabbit hunting provides an excellent way to introduce youngsters to hunter ethics and safety. Tramping around in farm fields gives many on-the-spot opportunities for instruction in how to safely cross fences, ditches, stone walls etc. Here a novice can learn that the chase, more than the shot, is the enjoyable experience.

Throughout the centuries that beagles have been used to chase rabbits, there has been a lot of conjecture as to whether it is the tastiness of rabbits or the incredible magic of beagle music that makes the cottontail the top small game animal in the nation.

For us, it is a combination of both these things.

It is likely that most Pennsylvania hunters, no matter how sophisticated hunting methods and preferences have become, find some time each season for plain ol' rabbit hunting.

In No Hurry

The eyes of black bear cubs don't open until the cubs are about forty days old.

Getting Together

By Toni Williams
GAME NEWS Staff Writer

IT'S ONE PART school, one part professional conference, one part seminar and one part family reunion. It's a chance for all the field officers and staff in the state to get together every few years—a chance to catch up on the latest developments in wildlife research, law enforcement and communications; to find out how other states are grappling with some of the problems Pennsylvania faces; to compete in the statewide officers' pistol matches; to recognize outstanding Commission employees; and to renew old acquaintances, chat with old classmates, meet new members of the PGC "family."

Lecturer Wolfgang Bosse makes a point about two-way communication.



District game protectors, land managers, research biologists, foresters, division chiefs, writers and photographers, administrators, game farm superintendents—essentially all full-time employees except clerical staff—met together for several days in July at Penn State's main campus in



Officers chat during class break. From left, DGPs Al Scott, Armstrong Co.; Bill Bower, Bradford; Dan Jenkins, Somerset; Tim Marks, Mifflin.



Three officers shot perfect scores on the practical police course: from left, LM Harry Richards (SW Div.), 18 X's; DGP Ned Weston (Butler Co.), 21 X's; DGP Wayne Lugaila (Erie Co.), 12 X's. Weston also made top score on bullseye course, his third win.

State College, as they did three years ago, for a statewide training conference.

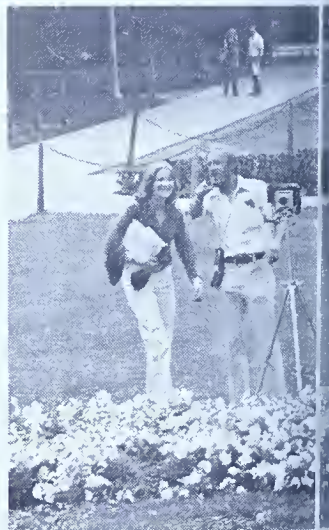
During the day, everyone attended lectures in the conference center, punctuated by coffee breaks and cafeteria meals. In the evening, things were less formal. Civilian clothes could hardly hide the difference from the usual college crowd. Short haircuts (including a few crewcuts) and clipped moustaches set the PGC personnel apart by physical appearance. But they enjoyed the same music and relaxed conversation that other students enjoy of an evening. Those who remained on campus collected in their dorm rooms for friendly card games, or sat outside talking and singing. Invariably, conversations centered around their Commission work.

As is true at most conventions and conferences, some of the most valuable interactions occurred outside of formal



Dr. Alan Sargeant, U.S. Fish & Wildlife Service biologist, describes his research on predator-wildlife relationships.

Unable to get the attention of those assembled for group photo, photographer borrowed a passing coed.



DGP Ted Vesloski (Luzerne Co. admires Endangered & Nongame Species Project patch worn by Paul D. McClain, Dep. Director, New Jersey Fish & Game. Nor game Biologist Joann Frie described the project.



DGP Bob Snouffer (Westmoreland Co.) listens intently to David Arnold, Senior Biologist with Michigan's Dept. of Natural Resources, as he details that state's complex deer management plan.



meetings. That's where people talk over their problems, kick around new ideas, find out what's happening in other districts, offer suggestions, argue the merits of various techniques . . . The value of such occasional meetings (and the more frequent divisional meetings) goes far beyond the important information absorbed in formal and informal sessions. Part of what makes the Pennsylvania Game Commission strong, what enhances the Pennsylvania officers' pride and dedication—their *esprit de corps*—is the strong bond they feel toward one another.

On many levels, the statewide training conference helps maintain the Pennsylvania Game Commission's respected position among state wildlife agencies. We'd like to share it with you through the pictures on these pages.



Lunch was a pleasant walk away, across tree-clad campus.

Photos by Joe Osman

Five persons were honored at the conference as the outstanding employees within their respective categories. They were (from left) Arnold Brunner, Forester, Smethport; Harry Merz, NC Division Conservation Information Assistant; Miriam Darr, SC Division Secretary; Larry Harshaw, DGP, Blair Co.; Paul Glenny, SC Division Supervisor.





FIELD NOTES



Self-Support is Best

LANCASTER COUNTY—At our recent training conference at State College, one of the speakers was from the Michigan conservation department. It was interesting to note that the State of Michigan has based much of its deer management program on facts set down by the Pennsylvania Game Commission. It was also interesting to note that the Michigan Conservation Department is funded by their general fund, and is now \$400,000 in the hole, because they are placed on the bottom of the list to receive monies from the general fund. Think about it.—DGP John A. Shutter, Lancaster.



Attack Rabbit

UNION COUNTY—Edger Shively of Millmont related the following: A customer of his observed a rabbit repeatedly jumping high into the air. Between the animal's jumps, the observer could see the grass moving near the rabbit. After a short while, the rabbit picked a snake up in its mouth, shook it and left, satisfied that its victory was won.—DGP Bernie Schmader, Millmont.

Coexistence

CLEARFIELD COUNTY—My sidewalk borders two sides of my office porch, one side continuing to the street, forming a 90-degree angle. There I've built a small retaining wall, filled it with dirt and peat moss and planted flowers. For several mornings, I'd noticed peat moss scattered over the cement walk—not much, just small patches. I blamed it on birds I thought were digging for grubs . . . until one morning I observed the "culprit" leaving the scene—a chipmunk. I thought about what I'd tell someone else if they called reporting such a problem. So I accepted the fact that the little fella was just trying to seek out some food in this cruel and unsympathetic world . . . and the dirt on the walk wasn't really that much of a problem. I repeat this to myself each morning the dirt appears, as I faithfully sweep the moss back into the flower bed.—DGP Jack Furlong, Ramey.

28 Deputy Years

ADAMS COUNTY—Deputy Charles Bretzman recently retired after working 28 years in upper Adams County. Charles was known to many in the area and to them he was the Game Commission. I want to take this opportunity to thank Charles for his many years of service.—DGP Gary Becker, Aspers.

Encouraging

NORTHAMPTON COUNTY—Since the inception of an annual Hunter Education Banquet in this district, several more sportsmen's clubs are making hunter education a major project in their club activities and it is being very well received.—DGP Richard W. Anderson, Nazareth.

"No Respect"

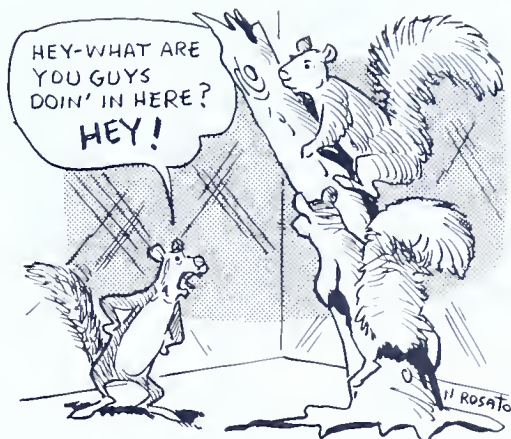
NORTHWEST DIVISION OFFICE—As a recent graduate of the PGC training school and a "rookie" game protector, it's sometimes hard to remember that I am actually part of the field force now. In July I was driving down the road and saw my cousin and best friend getting out of his truck to go fishing. I pulled off the road to talk, and he approached with that familiar cautious look. But then he said, "Oh, it's you! For a minute I thought it was a game warden—I didn't recognize your car." I thought a minute, then said, "Dean, I *am* a game warden,"—to which he replied, "Yeah, but I mean I thought you were a **REAL** one."—DGP Robert L. Lumadue, Oil City.

Here's Your Chance

SNYDER COUNTY—With today's interest in the welfare of all wildlife by many so-called conservationists, it seems ironic that it is still the average sportsmen who funds the majority of the nation's wildlife programs. Recent legislation granted the Game Commission the right to sell wildlife patches, decals, etc., to fund nongame programs. Now, those who do not hunt but still wish to contribute to wildlife management will have the opportunity to do so. I hope the general public will get on the bandwagon for wildlife.—DGP Frank Zalik, Selinsgrove.

A Week in the Sun

LYCOMING COUNTY—A road-killed deer was reported to the North-central Division Office just as the office was about to close. According to the report, a week-old deer had been killed. DGP Roller and I volunteered to pick up the deer. It wouldn't be any problem, we figured, because the deer could easily be handled with a garbage bag. As we drove near the reported location, our nostrils informed us that the deer *was* a week old, but it was not the fawn we expected.—DGP Dennis Dusza, Jersey Shore.



Silent Partners

ERIE/WARREN COUNTIES—The owner of a local sporting goods store was working in the store when he noticed a red squirrel hopping down the main street. When it reached the display window of the store, it stopped and looked at two mounted squirrels in the window, its head tilted questioningly. The squirrel proceeded to enter the store through the front door, which was open. It jumped up on the window ledge and approached the two mounted squirrels. After chattering at them for a short time with no reaction, it jumped off the ledge and exited through the door. Probably thought those guys weren't very friendly.—DGP George E. Gibson, Corry.

Maybe Ticks Were Better

CRAWFORD COUNTY—This summer, I have had to pick up quite a few young animals from persons who have removed them from the wild. Not having time to care for all of them until they can be released, I enlisted the help of Land Manager John Miller and his wife, Carolyn. The Millers make fine adoptive parents for the young animals. The biggest problem for Nurse Carolyn came when she decided to bathe four young skunks to get rid of some ticks and lice. Needless to say, the whole neighborhood soon knew the Millers were caring for the young skunks.—DGP Willis A. Sneath, Saegertown.

How Far?

MERCER COUNTY—While attending a field trial this summer, I was approached by many people with numerous questions. One that seemed quite popular was, "How far from my car do I have to be before I can shoot?" My advice to all hunters is: **DON'T** hunt by the road, or from it—get into the woods and **REALLY HUNT!!**—DGP James J. Donatelli, Mercer.

Minor Inconvenience, Fine Reward

GREENE COUNTY—Sam Faddis, a security guard at Ryerson State Park, told me about a pair of killdeer that nested right in the middle of one of the park's busiest parking lots. This minor crisis was solved when the park crew erected a temporary fence around the nest. Within a week or so the eggs had hatched and the young birds were off to fend for themselves.—DGP S. A. Kleiner, Waynesburg.

Dilemma

BRADFORD COUNTY—I received two complaints concerning beaver on the same day and within one hour. One caller wanted me to remove a beaver dam and the other caller complained that someone was trying to chase the beaver off her property and she wanted the beaver to stay. I don't know if I should move the beaver or the people.—DGP William A. Bower, Troy.

Well Worth the Effort

In July, the Butler County Sportsmen's Council sponsored its 23rd Junior Conservation School. This school was the first of its kind in the nation and is still the finest. Many of its alumni chose the field of conservation for their careers and are doing very well. We are all proud of this school and of the outstanding citizens it has produced.—LMO Jay D. Swigart, Butler.

Phantom Rabbit

JEFFERSON COUNTY—This spring I received a considerable number of complaints about rabbit damage to lettuce and tomato plants in backyard gardens. On all but a few investigations, the culprit was never seen. After a close look and some early morning observations, we determined that Mr. Cotton-tail was being falsely accused. It seems that sparrow flocks at sunrise would rather dine on a dew-covered salad of fresh lettuce and tomato blossoms than on their usual diet of insects.—DGP Adam O'Hara, Brookville.



Abnormal

My children have watched families in television shows threatened by bears trying to break into their cabins. Knowing bear, I have assured them this wouldn't happen. While my wife, youngest daughter and I were at camp near Emporium, one midnight a large black bear rested his front feet on the cabin's front windows and watched us playing cards. Then he tore open the screen door and tried to get in. Being the brave game protector, I went outside and tried to chase him away, but he wouldn't budge. In fact, he chased me back into the cabin, where we all watched him for the next ten minutes from an upstairs window behind the security of the concrete block wall. I explained it by saying this wasn't a normal black bear, but one that Norm Erickson watches over.—LMO R. H. Muir, Kitting.

Good Job, Leo!

LYCOMING COUNTY—We often talk about thankless jobs and unsung heroes. On behalf of all Game Commission personnel and the citizens of the Commonwealth, I would like to thank Game Protector Leo Milford of Elk County for his design and construction of the now well known culvert type bear trap. Leo has constructed over 30 of these traps in the last 20 years and they have proven invaluable.—DGP Bob Fala, Linden.

Stock Answer

BUCKS COUNTY—A game protector receives many strange phone calls unrelated to his duties. One was from a woman who wanted me to bring my tranquilizer gun over to shoot her steer because she felt it was too wild. I told her I did not have time to stop by to shoot the bull.—DGP David R. Koppenhaver, Quakertown.

Grouse vs. Truck

HUNTINGDON COUNTY—Farm Game Manager Jack James spotted a female grouse crossing a road with four young. Stopping his truck, he observed the young feeding on insects along the road. After a few minutes he started his truck, only to have the hen run in front of it. Jack then turned off the engine and she left. This occurred at least three times. Finally mother grouse got tired and led her brood off to safety.—DGP Phil Lukish, Alexandria.

Hold that Line!

SOMERSET COUNTY—Wildlife suffers from man's discards in many ways. While I was stocking geese with DGP Ron Askey, he showed me a goose that had encountered some monofilament line. It got so tightly wrapped around the bird's leg that it had cut into the bone in two places. For a man, the line is simple to remove, but for the goose or many other wild creatures, it can mean crippling or death.—DGP Dan Jenkins, Somerset.



Protect 'Em—But Not Here

BLAIR COUNTY—A young black bear recently decided to tour the city of Altoona in the residential section of Logan Township. Many residents got to see a bear for the first time without bars separating them. Several were pleased with the chance, but many more were upset at seeing or hearing of a bear running through the neighborhood. It never fails to amaze me how attitudes toward wild animals change when the animals enter an area. Several individuals wanted to shoot the bear, but thanks to the aid of the Logan Township and Altoona City Police, the bear was twice escorted out of the area.—DGP Larry Harshaw, Hollidaysburg.

She Can Take a Hint

BRADFORD COUNTY—Deputy Jim Cook had a unique experience this month. Riding his tractor across a hayfield, he noticed a doe standing in the field. As she took a few steps, a redwinged blackbird flew up in her face. The bird flew around her head, trying to get her away from its nest. Having no luck at all, the bird lit between her ears and commenced to peck and flog. The deer got a little annoyed, flicked her ears and flipped the bird off. The deer must have gotten the idea that she wasn't welcome, for she moved away from the nest and continued to feed.—DGP Edward Gallew, Wyalusing.

Lyin' Lion

LUZERNE COUNTY—I recently received a call that local police had a mountain lion surrounded and needed my assistance. I found four policemen from three different boroughs surrounding a huge brushpile; one of the policemen said he'd heard a growl near the brushpile. I investigated. The tracks leading into the brushpile, which were supposed to be those of the mountain lion, were those of a house cat.—DGP Edward R. Gdosky, Dallas.

Telling Me Something?

WAYNE COUNTY—Charles O. Bourke, who lives hard by the Red School House area, is a sportsman and fancier of beagles and labradors. Hounds in the past have answered to the names of Rosemary, Henry, George, etc. Mr. Bourke decided last month that he needed just a plain dog, something that would lie around the house, eat everything in sight and occasionally acknowledge the presence of the master. He acquired such a dog, of dubious heritage, from the local animal shelter. He named it Fred.—DGP Fred Weigelt, Galilee.

Here's to Twenty More!

MERCER COUNTY—On March 25, I and my fellow officers of the 13th Class of the Ross Leffler School of Conservation completed our first ten years of service. Reflecting on those years, my first thought is, where did the time go? And second, what have I accomplished? I have met people on both ends of the scale, terribly miserable and also the finest people I have ever known. I have done and seen things I doubt I would have been able to see and do in other professions. The job, like any other, has those days when you wonder why you ever chose it, but those days are very, very few. I think I have done a good job for the Commission, but in all honesty I have probably received more than I have given. I hope the next twenty are as good.—DGP Barry K. Ray, Greenville.

Weasel Music

One morning during the past spring gobbler season, my son Cliff and I were listening to a gobbler wish the world good morning, when we noticed the movement of a small animal close by. Apparently it was more interested in the sounds of our turkey call than the gobbler was, because "close by" turned into about 18 inches. The next thing we knew there was a least weasel perched on my glasses, which had been carefully laid aside due to their tendency to fog. I don't know what the little rascal had in mind, but after surveying the situation he and "Old Tom" both faded off into the distance.—LM Dave Brown, Westfield.

Poor Exchange

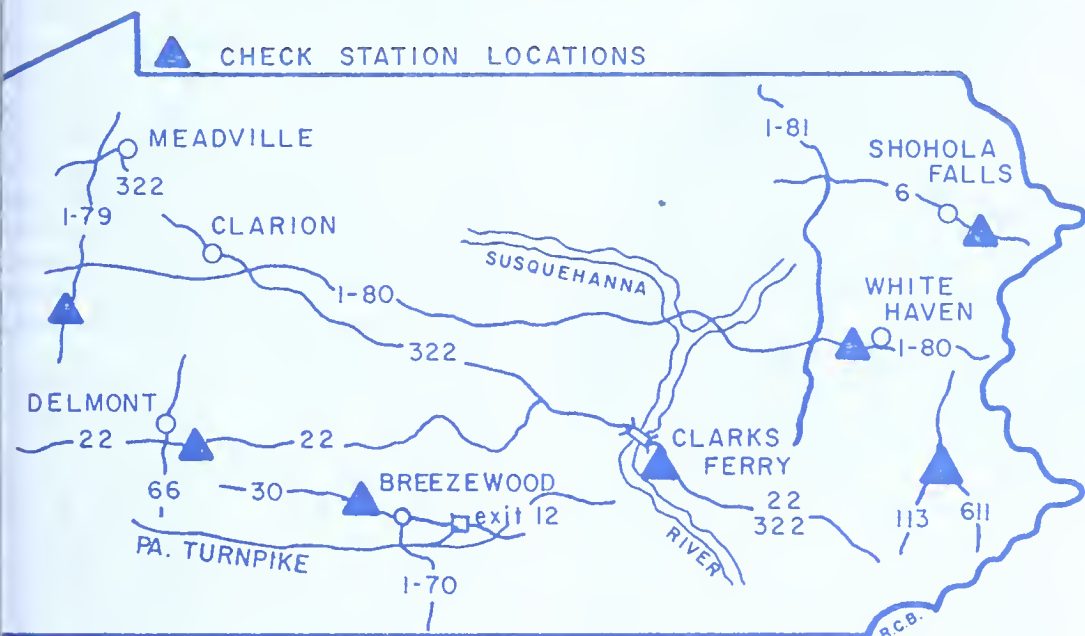
Leo Graybill of Hummelstown told me of his recent float trip on the Susquehanna River to observe waterfowl near the Commission-owned islands and to do a little fishing. He was successful on both counts. Unfortunately, the trip ended on a sour note when his canoe capsized in some rough water near Harrisburg. Lost: camping gear and tackle valued at \$100. Retrieved one plastic garbage bag, full. Now that's a real sport, but a sad one.—LMO J. E. Schweitzer, Hummelstown.

Happy Ending

POTTER COUNTY—Bob Stinton, who lives along the West Branch, called in May and reported a fawn was in his yard bleating. I told him to just let it go and keep an eye on it. Bob reported that the fawn went and lay down in the shade of the fencerow until about 4 p.m. He then heard it bleating again and saw it head for the woods above the meadow, where it evidently was reunited with its mother. I wonder how many other people would have resisted picking up the bleating fawn without giving it a chance to get back with its own. Thanks, Bob, for doing the right thing and leaving the wild babes in the wild.—DGP Ron Clouser, Galeton.

Seven Deer Check Stations

By Ted Godshall



ALTHOUGH THE NUMBER OF deer check stations is the same as last year, the location of the Southcentral Station is different.

GAME COMMISSION personnel will operate seven deer check stations in Pennsylvania again this year, according to Dale E. Sheffer, Chief of the Division of Game Management.

Much information invaluable to the deer management program is collected at these stations. Every successful buck hunter who can arrange to stop at one of these stations is urged to do so. The condition of the herd in different regions of the state, the condition of the range, the age structure of the herd and other information are revealed through the biologists' examination of deer at these stations. This data helps the Commission set seasons to provide the most sport for the greatest number of

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hunters each year. The check stations will be in operation November 27-29 at the locations shown on the map.

The Northwest Station will be at the rest area of the southbound lane of I-79, just as you enter Lawrence County, and the Northeast Station at the rest area off of the eastbound lane of I-80 near White Haven. The Southwest Station will be located near Delmont along Rt. 22 east of its intersection with Rt. 66; the Southcentral Station along Rt. 30 about one mile west of Breezewood in Bedford County (this is a change from last year); the Southeast Station north of Harrisburg on Rts. 22 & 322 near the east end of the Clarks Ferry Bridge; and the Northeast Station in the Shohola Falls recreation area parking lot along Rt. 6. The Bucks County check station will again be at the intersection of Rts. 611 & 113.



Hunting License Sales Still Lead U.S.



DICK ROSS, RD 2, Latrobe, with his first whitetail, a fine trophy for a 15-year-old hunter. A chance at a buck like this is one reason for Pennsylvania's large license sale.

PENNSYLVANIA continues to be the most heavily hunted state in the nation, according to the latest figures available from the U.S. Department of the Interior.

For a number of years Pennsylvania has been first in the number of hunters, hunting licenses sold in nearly every category, and in income derived from hunting license sales.

Each year a nationwide compilation

is made of all hunting licenses sold during the preceding year. Since Pennsylvania's hunting license year runs from September 1 to August 31, the latest national comparison includes Pennsylvania's 1976-77 hunting license year figure.

In that year, the Keystone State had 1,281,177 paid hunting license holders. A paid license holder is one individual, regardless of the number of licenses he purchases. Following Pennsylvania were Michigan, 921,858; Texas, 845,463; New York, 746,171; and Wisconsin, 702,351.

Sales of all kinds of licenses to Pennsylvania resident hunters totaled 1,856,341. Following Pennsylvania in this category were New York, 1,338,788; Michigan, 1,263,766; Texas, 1,084,455; and Wisconsin, 990,857.

Pennsylvania sold 100,450 nonresident hunting licenses. Although Montana sold 125,306 licenses to nonresident hunters, it must be remembered that each nonresident who hunts in Montana purchases a number of different species licenses. The same is true in Wyoming, which sold 109,407 nonresident licenses.

The Pennsylvania Game Commission's income from the sale of hunting licenses was \$14,885,430.95. Other leaders were Colorado, \$10,239,276; Michigan, \$9,647,088; New York, \$7,869,427.25; and Wisconsin, \$7,683,909.50.

Deer and Bear Records Book Available

Pennsylvania Big Game Records, 1965-1976, is the complete report on the Game Commission's six statewide deer and bear scoring programs. This 112-page paperbound book contains a complete integrated listing of all Pennsylvania-harvested deer and bear which have been measured during the programs (using the Boone and Crockett system) and which meet the minimums established by the Commission. In addition, personal accounts of most of the hunts which collected the top trophies are included, along with photos of more than 160 high-scoring deer and bear, annual harvest totals from 1915 through 1976, and other informative items. Price is \$1.00 delivered, from Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120.

Still-hunting is doing it the hard way, but it's . . .

The Most Rewarding Hunt

By Paul Brandt

A WOODCHUCK WANDERED out of the brush and began to nibble on some clover, just four feet to my left. Obviously he hadn't seen me standing there, and as I moved my arm to swing my camera around for a picture, the chuck wheeled and dove back into the brush, vanishing as quickly as he'd appeared. I chuckled at his antics, surprised that he had moved so close without spotting me. I had been standing in an open field. And although I had a bow in my left hand with a broadhead locked on the string, I hadn't attempted a shot. I wasn't woodchuck hunting. . . .

I turned back into the woods and proceeded along the well-used game trail. Moving only a few feet at a time, I paused quite frequently to listen intently as I scanned the trail ahead, the woods on both sides, and the trail behind me for movement. It might take me half an hour to move 100 yards at this rate, but I wasn't in any particular hurry.

Suddenly a loud crash sounded from above and I looked up to see a big gray squirrel falling tail over tincups from the top of a tree. He had fallen almost halfway to the ground when he antically latched onto a limb and regained his perch. He paused momentarily to gather his wits, then disappeared from sight. Yes, squirrels are very agile, but they do sometimes miss a limb and take a tumble. But I wasn't squirrel hunting, either. . . .

The squirrel was gone and the woods became quiet as I started to move forward again. A short distance ahead the trail curved toward the edge of the woods and as I neared the edge I spotted some movement. Deer! Now that was what I was hunting!

Three of them were feeding on fallen corn that a mechanical picker had missed, and they were about 75 yards

away from me across an open field.

I crouched down and watched the whitetails, knowing that I could never approach them across that open field. And they were slowly moving even farther from my position. There was a possibility that I could move on down that trail and circle around to intercept them as they entered the other section of woods, but I would have to hurry. And that would cramp my style. I was still-hunting.

I never like to hurry, especially when I'm in the woods. That's one reason I hunt, to get away from all the hustle and bustle. Like they say, good things take time, and hunting is most certainly one of the "good things". A hunter should learn to savor every moment of it, even if he doesn't fill his tag or bag the limit. But enough philosophizing.

Ignore Whitetails

I decided to ignore those feeding whitetails and continued along the trail, which started to turn back into the woods again. I began to look for more deer signs, hoping to sight the flick of an ear, the glint of sunshine on an antler, or possibly a horizontal line which might turn out to be a deer's back. All of a sudden, I was alert. I hadn't really heard anything, and I hadn't seen any movement, but I had *sensed* something. Maybe there's such a thing as "hunter's intuition". Then I spotted movement, and I caught my breath as a turkey gobbler stepped onto the trail, from the left.

The big bronze bird was walking casually, but wary and alert as he crossed the trail. He never looked at me and it was obvious he didn't know I was there, or he would have been long gone. Reaching the other side of the trail, the gobbler disappeared in the woods. I stayed in position, hardly daring to breathe. I didn't want him to



flush and possibly alarm other game that might be in the vicinity.

Then I gave myself a mental pat on the back (since it's rather difficult to do physically) for doing a fair-to-middlin' job of still hunting. That bird had been no more than 12 feet from me and never knew I was there. And *that* is unusual for a turkey.

I began to move on again, and now I was really alert. After I had moved about 50 yards, I froze in mid-stride again. This time I *had* been alerted by a movement. Two deer had stepped onto the trail about 30 yards ahead. And here it was, the "moment of truth".

But would the Red Gods smile? Would those deer break and run before I could get off a shot? And, I wondered, had there been a buck following those doe?

But it was too late to worry about a buck behind the doe. If there had been one, chances were he'd spotted me and had taken off for parts unknown. So I concentrated on the matter at hand—those two deer on the trail—and decided to try for the doe nearest to me. She was the larger of the two.

Those deer must have spotted me at about the same time I had spotted them. They looked me over curiously, flicking their ears and sniffing the air cautiously as they took a tentative step forward. Fortunately I had stopped next to a pair of stunted cedars which helped to break my profile.

Focused . . . And Released

I raised my 60-pound long bow very slowly, drawing the arrow back as the bow came up into shooting position. I kept my gaze glued to the deer, expecting them to break and run at any moment. When the tips of my fingers reached the corner of my mouth, I focused on the patch of hair behind the deer's shoulder, and released.

The release didn't feel right . . . and it wasn't. The cedar shaft zipped over the deer's shoulder and rattled into the trees behind it.

But much to my surprise the deer stayed standing, broadside and slightly downgraded from me, just as though nothing had happened. Neither the release, the sound of the string, nor the flight of the arrow had bothered them in the least.

It might be best to mention that I am an instinctive shooter—*purely* instinctive. I don't use any type of bow sight nor do I use any particular method of aiming. I simply concentrate on what I want to hit, and rarely hold the arrow in full draw for any length of time. The miss I just had was not the result of no aim; it was a sloppy release—pure and simple.

Now, watching the two deer carefully, I reached for another broadhead very slowly and drew it from my back quiver. Still moving in slow motion, I nocked the arrow and again came to full draw, trying to do so with a minimum of movement.

The tips of my fingers reached the corner of my mouth, and I released.

stantly . . . and it was a hit! The
dar shaft struck the doe solidly and
e collapsed and rolled down the
ade.

Then, to my amazement, I realized
at the second deer was *still* standing
ere. She was eyeing me in her cu-
pus manner, and it was hard to
elieve. I had shot two arrows, one
ght after the other, while both of
ose deer had been standing there
oking me right in the eye.

Then my curiosity got the best of me.
Reached over my shoulder, as though
were drawing another arrow from my
tiver, and went through the motions
nocking and coming to full draw. I
ing my hand away from my face in an
aggerated release, as though releas-
g a third arrow.

The doe just stood there looking at
e for a moment longer, then snorted
though disgusted at my antics. She
rned slowly and walked back into the
oods.

It was unbelievable . . . and that is
ay I'm sold on bow-hunting, espe-
ally when still-hunting and stalking.

Tree-stand hunting might be more
oductive for a bow-hunter, but still-
unting is certainly a lot more satisfy-
g. And I'll guarantee you it's tougher!
The first whitetail I ever shot was

Give

GAME NEWS

To a Friend . . .

bagged during a drive. The 6-point
buck was running broadside across an
open field and I dropped him at about
80 yards with an M94 Winchester 38-55
carbine. The first whitetail a hunter
bags is certainly a great thrill, but that
hunt cannot compare with the still-hunt
I've related above.

Still-hunting or stalking is tedious
and requires a great deal of patience
and concentration. It is much more dif-
ficult than most other types of hunting.
There's no question in my mind that
this type of hunting will make a better
hunter out of a person. You see more
game, too.

It takes many years to perfect a still-
hunting technique (I'm still working on
mine), but when you get the hang of it,
chances are you'll never revert to other
types of hunting.

Try still-hunting a whitetail deer
and—no matter what type of sporting
arm you use—I think you'll find that
you've put the "hunt" back in hunting!

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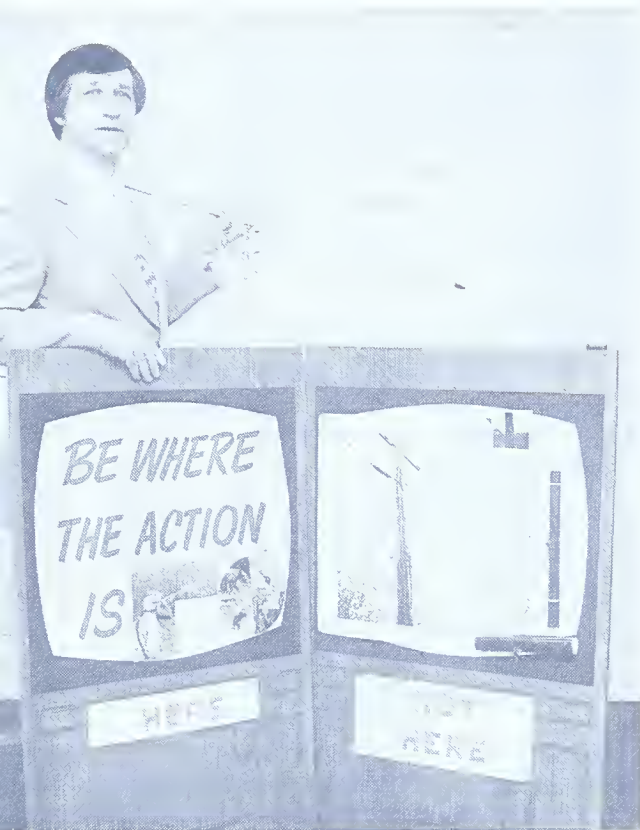
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HE Rings Bell With Students

By John C. Behel

PGC Hunter Education Coordinator

by Instructor Duskey, damage to utility equipment has been reduced through hunter education classes which have created better communications with students.

In calling attention to damage, game protectors, police, and personnel of public utilities are again appealing to shooters to handle firearms safely and sensibly to protect lives and save property.

Every year public utility equipment is damaged or destroyed by shooter. Sometimes personal injury occurs in these incidents.

Investigators have found that much of the damage to utility lines, transformers, insulators, relays, etc., is caused by young persons using firearms in a careless manner. Many shooting incidents are deliberate. Annual property losses in the state run into the hundreds of thousands of dollars.

Each spring, as soon as schools close, there is a sharp upturn in shooting damage.

Evidence of misdirected target practice by youths during summer vacation has prompted law enforcement agencies to emphasize to teenagers and parents the importance of handling and using firearms properly. They point out that this saves lives, reduces injuries, and protects private and public property.

Severe penalties can be imposed upon shooters who indiscriminately damage property or endanger others through deliberate or careless misuse of firearms.

JOHAN R. DUSKEY of Washington, Pa., supervising service foreman for Bell Telephone Co. of Pennsylvania, was one of four local hunter education instructors who presented "Hunter Responsibility" at the Ross Leffler School of Conservation. Duskey's comments on utility damage were part of 19 hours of hunter education instruction given to all salaried officers completing their training as district game protectors and certified as hunter education instructors. Other members of the Washington County hunter education team to address the class were Bob Mills of McMurray, Jack Creighton of Hickory, and Wilbert Shoup of Burgettstown, chief instructor and one of the organizers of the local team.

Duskey has been involved with the hunter education program for three years. The display of damaged telephone company equipment and the chart are used to indicate the positive impact of the program. The program encourages safe handling of firearms, responsibility, respect for the property of others, and reliability of our communications network. As pointed out

11. **FRANK ANTHONY**, professor of agricultural education at Penn State who long has been involved with the Game Commission's hunter education program, receives the Senior Wildlife Conservation Award at his retirement ceremony from Hunter Education Coordinator John Behel (ft). During nearly twenty years of work in this area, Dr. Anthony developed the "Attitude Inventory of Hunters" and the "What Do You See?" slide series, which have been valuable to hunter safety training. Countless hunters have benefited from his dedicated efforts.



Hints to Hunters. . . .

Don't hunt from vehicles . . . it's illegal, unsporting, and can be expensive.

Don't shoot at random . . . it's unsafe and illegal.

Watch out for deer on highways . . . hunting pressure often pushes whitetails from cover, sometimes sending them across roads. Be careful.

Tag all deer before transporting. It is not necessary that lawfully taken whitetails be displayed on vehicles during transportation; it is only required that they be properly tagged.

Don't load firearms before shooting time . . . it's easy to trip and fall while walking into the woods before daylight. This can cause an accident if your gun is loaded. You can't legally shoot at this time, so keep your gun unloaded until legal shooting hours.

Deer left in cold storage or processing plants must be tagged. The official tag should be attached and remain attached to deer head; a separate tag provided by the hunter or processor should be placed on the carcass.

Don't shoot at public utility property such as insulators, poles, transformers, or whatever. Don't shoot at highway signs, posters, billboards. Report any such violations that you see, noting a hunting license or car license number or other means of identifying the violator. Such destructive shooting is illegal.

Prop open the mouth of your deer to prevent jaws from freezing shut; this makes it easy for biologists at deer check stations to get necessary data.

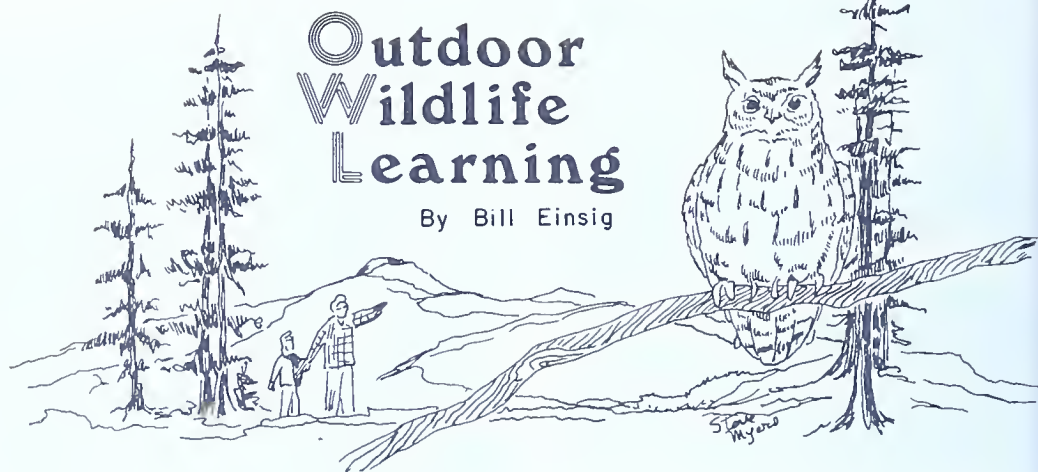
Remember—it's illegal to operate snowmobiles on State Game Lands during deer season. Check the posted regulations.

Don't block rights-of-way, access roads, or whatever. Park your car carefully. Be considerate of others.

Dress out your deer in the woods, not along highways or other places where the entrails will offend motorists or landowners.

Meat plants are permitted to process deer, despite persistent rumors to the contrary. Both state and federal meat inspection regulations specifically permit plants to process game for hunters. Venison and meat from other game may be mixed with beef, pork or other domestic meat, if desired.

Before leaving for deer camp, write out precise directions to its location so your family can find you in case of emergency.



NWF—Again!

While reviewing materials for environmental education, it's possible to become frustrated by concoctions that only go partway. A good many self-proclaimed "educators" have followed tangents leading away from well-rounded programs that teach the complexity of the environment and/or the decisions that deal with it. So it's refreshing when something comes along with "quality" written all over it, from concept to finished product.

Such are the "Environmental Discovery Units" written by the Minnesota Environmental Sciences Foundation, Inc., and published by the National Wildlife Federation. The series includes 24 topics such as "Snow and Ice," "Sampling Button Populations," "Plant Puzzles," "Color and Change," and a favorite of mine, "Outdoor Fun."

Where some materials leave off, these units continue to develop a concept and turn it into a valuable learning experience. For example, the Outdoor Fun unit starts with an experience called "Autumn Seed and Bur Activity." In Part I students collect burs of various kinds on their clothing by frolicking in a weedy field. Later, back in the class room, the kids remove the burs and examine them. So far the activity is one that might be seen at a camp or outdoor school where the emphasis is on recreation and awareness. But these authors realize that awareness is only the first step. Their discussion questions for the seed examination would make Comstock, Leopold and Palmer smile with delight: "What's inside a bur? What might happen to a bur that stuck to a fox's tail? Did different kinds of burs come from different locations? What do burs look like under magnifying glasses?"

Next, the students are gently led into an

experiment to show that some seeds must pass through a cold dormancy period which others do not. A few seeds of each type are refrigerated while others are left at room temperature. Later, the seeds are planted and observed over a period of time. Finally, more good questions.

This activity goes far beyond arousing the students' awareness. It develops the concept of interrelationships, cause and effect, and constantly asks the student *why?* This is good stuff; not just fun and games, but quality teaching material.

Write for a free descriptive brochure: National Wildlife Federation, 1412 16th St. N.W., Washington D.C. 20036.

Mountain History

For most of us, "going to the mountain for a weekend or longer means an escape from our daily pressures to a place that is still somewhat wild—a place where we can be alone and unwind. We also have a certain feeling of discovery as we hike a trail or bushwhack crosscountry, almost as though we're the first to explore the area.

At first it's a bit disconcerting to learn that your favorite haunts were once bustling with the activity of logging camps, sawmills and tanneries. But most of that has vanished; only the barest traces prove they ever existed at all.

On one of his treks into the Potter woods some time ago, Lou Hoffman found an old two-man saw trapped in the crook of a tree that had engulfed the blade with decades of new growth. Why did the logger fail to return for the tool? What was the forest like on that day?

Most hunters who have spent time in the big woods have learned a lot of history from names like "Wild Boy Run," "Straight" and "Bootjack." Many of these stories are exciting even to listeners

we've heard them time and again, but especially so to youngsters. Knowing the history of an area and the way in which it's past influence what exists today, adds a new dimension to our view of the outdoors. But this kind of information is hard to come by.

Fortunately, several Pennsylvania writers have carefully researched the transportation and logging history of the last century or so. Their books represent some of the best collections of facts and anecdotes available to us.

One series by Thomas Taber of Muncy concentrates on the logging railroads and lumbering industry in Pennsylvania. Some 14 volumes cover (by region) railroad and lumber practices as well as the allied operations of tanneries and wood chemical plants that at one time spread throughout the state. Tom will send a descriptive list of the series so you can pick the booklet that covers your favorite area. (Thomas T. Taber, 504 S. Main Street, Muncy, Pa. 1756.)

Another series of equally interesting and well-documented descriptions comes from William H. Shank of York. Shank's interests include almost every aspect of transportation used over the years to move people and goods through Penn's woods. His work on the canal systems brings to view a lifestyle that few of us can visualize, accustomed as we are to the rapid transport we depend upon today. His other books include *Historic Bridges of Pennsylvania*, *Great Floods of Pennsylvania* and many others. He, too, will send a descriptive list of his work. (William H. Shank, 89 Rathton Road, York, Pa. 17403.)

EE in PSTA

The Pennsylvania Science Teachers

Association recently dedicated its spring *Journal* to the topic of environmental education. Contributors include Dr. William B. McIlwaine and Dr. Robert N. Ford, both of Millersville State College, Louis Ritrovato, Bureau of State Parks, and Richard L. James, Director of the Schuylkill Valley Nature Center in Philadelphia.

Dr. H. S. Fowler, Professor of Science Education at Penn State, contributed the keynote article as guest editor. Dr. Fowler's work in conservation education is familiar to people across the state and well beyond. He compares the movements of nature study, conservation, outdoor education and environmental education over the decades.

The entire issue represents a significant compilation of ideas—along with a few activities—basic to EE. If you can't find a copy locally and want to keep one on file, contact Barry Barnhart, Harrisburg Area Community College.

New Nature Magazine

If you're interested in the outdoors, nature study and outdoor recreation, you'll be interested in a brand-spankin' new publication, *The Pennsylvania Naturalist*. The first issue concentrates on the diversity of natural things available to us in our state. Editors Ron Shafer and Jerry Shue of Huntingdon have labored long and hard to produce a publication that can deal with the interests that attract folks to the outdoors.

Six regional editors will keep abreast of local events—workshops, courses, etc.—and take an in-depth look at natural areas within their region. You can learn about more hiking trails, more streams to float or fish, and more parks to visit and learn from. (*The Pennsylvania Naturalist*, Box 47, Huntingdon, Pa. 16652.)

Conservation Publications Available

You can get an up-to-date 12-page leaflet listing conservation publications available from the National Wildlife Federation. The leaflet describes each publication, most of which are free for single copies, and lists multiple-copy prices. Some publications are aimed at teachers, some at homeowners, others at anyone curious and concerned about our environment, especially living things. Request a copy of "Conservation Education Publications" from the Educational Servicing Section, National Wildlife Federation, 1412 Sixteenth St. NW, Washington, DC 20036.

IN SOUTHERN Pennsylvania, November reaches a dazzling crescendo as small game season takes on full momentum. But in the north the early weeks of this month bog down somewhat. There are a few turkey hunters out, but law enforcement patrols center on the darker hours as game protectors work on jacklighters and raccoon hunters. Then suddenly everything flares up, like fine shavings tossed on dying embers, as we are launched into the bustle of deer season.

November 2—Normally we receive two shipments of pheasants each fall. The first, which is the largest, is put out a few days prior to the hunting season. They are not released much earlier than that because many of them wouldn't survive until opening day. The second shipment arrives after the season opens and I spent today stocking them. Even stocking in-season, the return of these birds to the sportsmen is terribly low.

November 5—Today I received a call from a lady in Grey Valley. Seems some young people were hunting rabbits behind her house. She said they were all in her safety zone and one of them shot a rabbit right in her backyard. She was understandably upset. Of course when I arrived the hunters were gone and the witness managed to get an incorrect license number. But she did recognize the car as belonging to some local teenagers. I checked this lead and soon managed to come up with the names of the violators. They agreed to settle out of court.

November 8—While patrolling Mill Creek this evening, George Wilcox, a new deputy trainee, and I noticed a car parked along the road. A spotlight was shining from the car and a person was walking around in the field holding a handlight. Soon they started up and when they drove by us we followed. The road ends by a barricade where the new dam construction starts and here they stopped in the middle of the road. Two men got out and periodically a spotlight would work the woods adjoining the road. The mystery was solved as the piercing notes of a squealing rabbit reached my ears. When I approached them I found one man leaning over the roof with a loaded 10-gauge shotgun. A tape player lay on the back seat and they were using a spotlight attached to the car. All in all, it was just one very lazy and illegal way to hunt foxes.

November 11—Last month I had set a



By Jack Weaver

**District Game Protector
Tioga County**

bear trap near Mansfield where a bear had destroyed some beekeeping equipment. Today the landowner called to let me know I had caught a nice black bear. Biologist Arnie Hayden came over and tranquilized the critter. I took some pictures of his tagging operation. Later that night, Deputy Jim Meachem and I picked up a bear hit by a car on Route 15 near Lawrenceville. The bear weighed over 300 pounds. When it rains, it pours!

November 12—Ever since raccoon season opened we've been trying to curb the distasteful habit of using vehicles to take animals. Any furbearer is a target for the night scavengers. They cruise slowly along the back roads, using a spotlight to locate an animal, then jam on the brakes and use a club or gun to kill whatever they find. This evening we followed a pickup which was concentrating its light more on ditches and trees than on the open fields where deer were feeding. After following the truck around Union Township awhile, we finally stopped it just inside Lycoming County. The occupants hadn't found any raccoons yet, and when we questioned them they denied they were road hunting. However, in the back of the truck were two homemade clubs and a long snare for yanking animals out of trees. Shortly after we advised them of their rights, they finally admitted they were after raccoons. What about the clubs? To get around the violation of possessing a gun in case they accidentally shot a deer! They still got burnt. Sport hunting was never designed to be a commercial venture, regardless of the price for furs.

November 18—A cooperator in the Farm-Game project called today to complain that someone was trapping on

property without permission and that this person was catching his cats. The landowner said he doesn't mind trapping, and if the trapper had just asked permission he could have been welcome. As it is, I got to the act and found the trapper was also poaching and had improperly tagged traps. Both are violations.

November 22—Jim Meachem and I spent the morning going through antlerless deer license applications at the county treasurer's office. A few, which we recognized as being from nonresidents, were filed more than 30 days prior to the season (the earliest date nonresident applications may be accepted). That meant they also must have purchased, illegally, resident hunting licenses. They did, on both counts!

November 24—George Wilcox and I'd stumbled around marshes and drainage ditches since about 5 a.m., trying to find where someone tried to cheat by setting traps early. Trapping season opened at 7 a.m. and traps may not be staked or set prior to that time. We had already apprehended one violator when my wife got on the radio to report a man complaining about someone setting traps early near Lawrenceville. George and I found the traps. One already contained a muskrat. We fooled around there all morning, gathering evidence and waiting for the trap's owner to check them since we were sure they had been set the night before. About noon we apprehended the violator and he admitted setting the traps around midnight. Whew! I almost missed Thanksgiving dinner.

November 27—A hunting lodge nestles snugly in the middle of 300 acres of posted ground where we have suspected illegal activities during deer season. This year I received some good information concerning their shady operations. The owner wanted a strip of buckwheat in a field adjacent to the camp and the word is they kill deer before opening day. Working in shifts, we've been conducting a frigid around-the-clock surveillance of the area since midday. This evening, before dusk, Deputies Dave Darby and Jack Richards radioed me to report a shot had been fired from the lodge. They believed our suspects had killed a deer.

When I got there the camp's owner decided shooting a deer so the deputies and I fanned out across the field in front of the camp to look. It had begun to snow and we were afraid it would soon cover any evi-

dence. Darby followed a couple of sets of footprints which left the lodge in the direction of a fencerow. There he found a 3-point buck, freshly killed and gutted, hidden under a pile of brush. The tracks returned to the camp. Dave let out a war whoop when he found the deer and I don't blame him. It had been a long, cold, and sleepless weekend for us. Now all we had to do was prove which three of the eleven nonresidents in camp were involved.

Of course, they all denied knowing anything about it. About this time my wife radioed me that she had to take our daughter to the hospital and I had better come home. Then the State Police reported someone was shooting at deer near Lawrenceville, at the other end of my district. To make matters worse, a hard snowstorm broke.

DGP Lynn Keller gave up a hot supper to start over while I headed for the hospital and Deputy Stan Whittaker headed for Lawrenceville. This left Darby and Richards in charge of the camp of angry nonresidents. When I got to the hospital, everything was under control and not serious, so I headed back. Finally after considerable investigation and interrogation, three of the camp's members admitted to killing the deer. We settled everything up and then went to find Deputy Whittaker. He hadn't had any luck in Lawrenceville, so we headed for home shortly after midnight.

November 28—After a couple hours of sleep we were back on patrol for the first morning of buck season. Violations centered around untagged deer, loaded guns, nonresidents hunting on resident licenses, and road-hunting. By the time I struggled home about 7 p.m., my office was overflowing with disgruntled violators.

November 30—By Wednesday I was beginning to feel the strain of constant problems and little sleep. I probably wouldn't have been suspicious of the camp with the New Jersey truck parked alongside, except that all the occupants had resident licenses and acted rather nervous. The owner of the truck had maintained a Pennsylvania resident driver's license after he moved to New Jersey several years ago. That's what he used to purchase his resident hunting licenses with. He had been hunting on Pennsylvania resident licenses since 1971, so the \$320 fine still left him ahead of the game financially. Perhaps now you can understand why the Commission doesn't recognize the operator's license as proper identification for purchasing a hunting license.

THE PURE moments come more often now.

They come because I'm trying to free my mind, to let it shake loose and float above the drab current that dominates so much of life.

These last few years the moments have been catching me in odd places: on city streets, on straight, somnolent highways, on the dirt running trail where my feet pound and my breath comes hard and fast. But most of the pure moments still occur in the old standbys: the woods, the stream banks, the grass fields where insects whisper.

Some come in fall, when I'm at the window watching wind strip leaves from trees, or when I'm out in the wind, hunting. Some rush in and root me to the spot with unbridled joy and a sense of oneness with my surroundings. Some slide in, spreading a dread tempered by wistful insights that things are as they should be—simply because they are.

But most of the moments well up gradually, so that I find my body doing something good and natural and my mind singing and free.

The pure moments may be triggered by seemingly simple things, like a leaf's symmetry, the smell of sod or pines or rain, an owl call, or the humbling weight of a pack on my back. But I suspect their genesis is more subtle and cumulative—built of barely noticed impressions of the day, the year, the life.

The mind can expand and free itself by focusing on the individual impression, but at the same time it must remain open to the multitude of other impressions that bombard the senses. All add up. All contribute. And the total experience, like a good painting or novel, amounts to much more than the sum of its parts.

I must tell about a deer I saw in the woods.

I saw a deer with a gray pelt that rippled as it walked. A body that seemed to join with and expand into and pass through the shimmering gray of surrounding beech trees. A limber white tail that wagged side-to-side. A form that flowed, more than stepped, over rocks and logs.

Thornapples



Chuck Fergu

I swear that when the deer passed saw every subtle feature. I saw its wiry legs, polished black hooves, short gray hair, white whiskers, the deep cavities of its ears. I experienced the deer; understood the deer; for an instant, was the deer.

Indeed, part of me is animal. I attach no stigma to the word, because it seems that animals—simple, simply living—are in many ways nobler than human with all their artifice. I am a physical animal. I feel, taste, hurt, hear, see and smell, and I marvel at the simple perfection of these sensations. Some times when I hunt, I absorb thousands of messages sent by woods or marsh or deep grass fields—and the death that may or may not become part of the whole. Sometimes when I run long distances, my mind leaves my body and floats above, tethered like a balloon, while my physical self cuts smoothly through a river of pain.

Another part of me—the final, ruling part—is human. I need other people and many of my pure moments grow out of personal contact. Something special flows between people who have similar attitudes and ideals and who spend time together in nature. I've developed such a bond with four people—two hunting partners and two friends. And I've felt hints of the same feeling toward a handful of others met on nature's common ground.

I must tell of a pure moment that happened this year.

It was May. A friend and I were hiking in Slaybaughs Valley. The evening had been dominated by sound: the strident crows deviling a bird of prey, a humming pair of woodpeckers, spring peepers shrilling from bogs, and scores of birdcalls unfamiliar to ears still accustomed to winter's silence.

Cool air had started its nightly creep into the hollow, and the light was rosy. As we walked, brushy woods gave way to dirt littered with last year's corn cobs; beyond, mountains rose in pale-tinted hummocks to form the valley's north border.

One by one the sounds deserted the valley, until only a few crows croaked in the distance. Then, from across the field, came another sound. It started as a low tremolo, increased in pitch and volume, and resolved into a rant wail. It rang with the wildness of highlands and windswept moors: it was the music of bagpipes.

We had no idea who was playing, or why, or even where. The drawn-out notes were impossible to pinpoint, and they nudged aside the memories of all the evening's other sounds. We recognized no tunes, but the dissonance dominated our senses and rendered the world's closing, and our presence in it, meaningless.

Perhaps the evening was pure for us because we took time to stand and listen. Because we didn't just cock our ears at the sound and remark on how incongruous it was and shuffle off to-

ward the next moments in our lives. I know I'm sometimes governed by this urge to keep moving—this restlessness that takes me from place to place and thought to thought. The urge, I think, is prompted by a misconception that the answers to life's questions—those bright flashes of clarity I've been calling pure moments—are found not in the stopping to look and listen, but in the journeying itself.

Lose Their Purity?

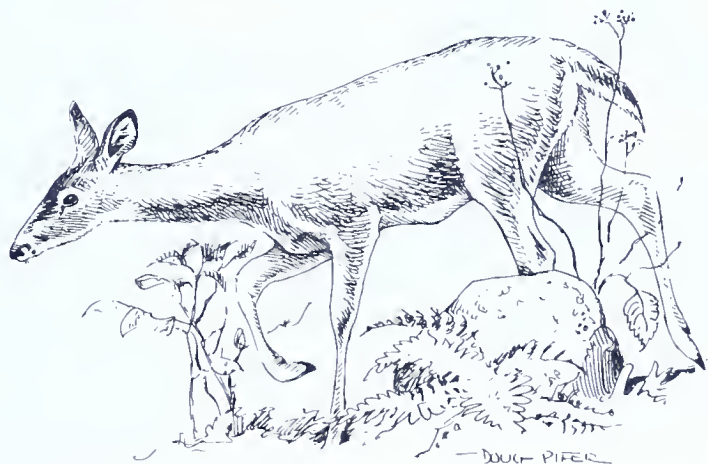
I've often wondered whether a life composed solely of pure moments would be bearable. Or whether the moments would lose their purity, tarnish, grow wearisome like any other good thing experienced to excess.

Or whether they would drive you mad.

A friend, a hunter, finds it important to immerse himself in his days afield. To live each fully: hunting until the last light and to the edge of exhaustion, spending all his energy in a stalk as if it is the last stalk he will make in his life. If he does these things—if he does his duty to the day—it makes no difference whether his hunt ends with a kill.

I've tried to immerse myself in hunting and found it heady stuff. It can be done in rain or swarms of insects or blowing snow, and the physical discomfort will be unimportant because the mood will be right.

I recall closing out a day of deer hunting in scrub oak flats. From just after



dawn I had moved with quiet precision. I'd seen deer before they spotted me, watched a single doe wander past five paces away, and tuned my ears to those of the woods.

I hunted through a lumbered-off area, knee-deep in briars and scrub. One step, two, three, stop and watch and move only the eyes and smell the raw oak bark and listen for the one sound that will be the buck's mistake. But the buck, if it was there, made no mistake and sunset found my body drained by my senses full.

Last Patch of Scrub

As I hunted the last patch of scrub, a roosting grouse flushed from a pine. A second grouse followed, another, three more, in steady, ordered flight. On stuttering wings they fled into the sun and were gone.

The spell broke. The cold felt strong against my face, and I was out of my element, and I slung the rifle and started home. I had spent all of the day that was mine to spend.

There is something beautiful and a little terrible about committing yourself to anything, the act of hunting included. In the case of hunting, you let the animal rise and take over. You forget the pure moments and let them carry you. You wonder if they will just take you up to the line and bring you back or if they will carry you on forever. I remember feeling it last fall in a pheasant field. A rooster broke bright and clattering from the weeds, the gun leaped in my hands, there was no possibility of missing, and for an instant—but only an instant—I was no more than another predator in a wild and desolate land.

But pure moments aren't the sole province of the wanderer in nature, the person with gun or binoculars or fly rod in hand. They're also bestowed on the sculptor when, at long last, a shell of wood or stone falls away to expose the figure hidden within. They come to the photographer when his subject turns and the light is just so, and the look in his lens pierces the subject's soul. They come to the farmer who has plowed the day's last furrow, turned on the tractor seat, and looked back toward the sun.



row after metallic row of belly-up
dt.

They come to the writer, and they
are the ultimate reward.

In the end, pure moments may be
noted in ignorance—in a person's abil-
ity to remain as a child, to see things as
new and bright and special. I have a
friend who could look at a haystack (or a
cow, curlew, two-cycle motor, or most
anything else) and see it as if it were
newly created and instantly revealed.
Once, in the dead of winter, he saw an
eagle on a haystack and was sure it was
a hawk. When he pulled on his galoshes
and went out in the snow, the bird flew
into the air on great flapping wings, and
he was amazed that it was an eagle, and
that, too, was wonderful.

The pure moments can come in the
most mundane places.

I recall a steamy August day in a
Midwestern city. I rode in a friend's car
down wide streets, past towering brick
buildings, through the center of the
city. Fumes, noise, walls: my stomach
grew tight, and I felt properly provin-
cial. At an intersection we stopped be-
hind a bus. In the bus was a young
woman, blonde, with a kerchief tied

under her chin. She looked down, our
glances met, she smiled—and I saw in
her eyes an inner peace that kept her
serene in a place where I couldn't begin
to exist.

Flashes of the same sort of peace
come at the heart of a pure moment.
Maybe understanding unfolds as a
series of such moments, each bred of
moments that went before, each ex-
panding from and feeding on the
others. In the aftermath of a pure mo-
ment comes the feeling that a certain
emptiness is a little closer to being
filled.

When I consider the pure moments,
my thoughts inevitably turn to the out-
doors. It is here that things seem ele-
mental and close to the bone. Here
friends show their characters, here I
can go to the depth and ask myself
questions and listen to the answers.

The open spaces work on me: the
mountains, the rivers, the unbroken
stretches of water or plain, the old
familiar woodlots and farm fencerows.
They give refuge; they clarify; they re-
veal. They shake loose the pure mo-
ments like November winds shake
thornapples from trees.

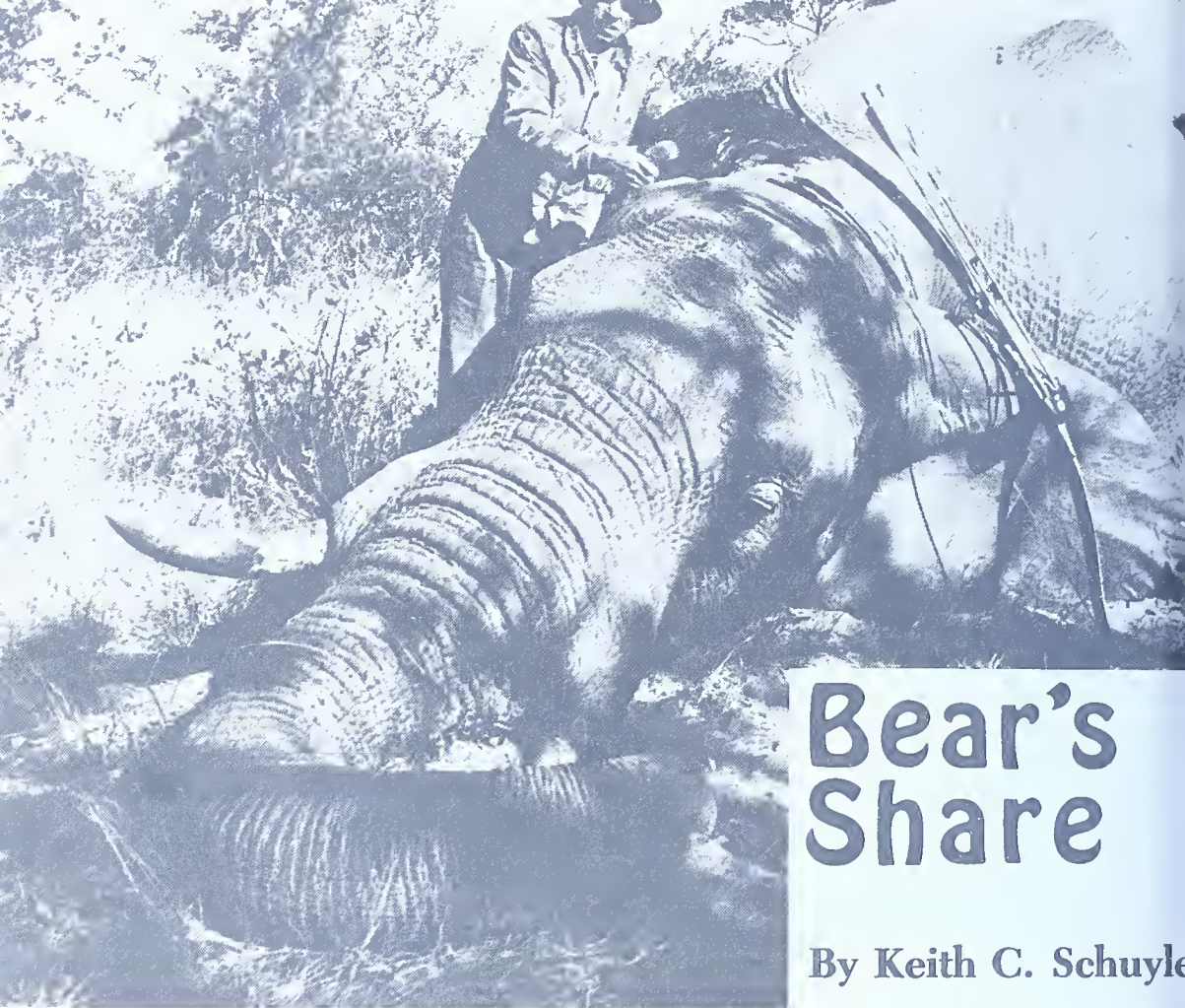
Looks in Brief . . .

(Order from publisher, not from Game Commission)

Gun Care and Repair, by Monte Burch, 191 pp., \$10.95. A basic guide for the gun
hobbyist who wants to do some gun alteration and repair. Tells how to set up a work-
shop, do some stock work, rebluing and sight installation, etc., with some comments on
various kinds of gun repair.

Hunting Whitetail Deer, by Robert E. Donovan, 228 pp., \$12.50. Strategies and tech-
niques for taking America's most popular big game species, by a hunter who takes the
practical approach to everything—guns, woodsmanship, knives, etc.

Pistols of the World, by Ian V. Hogg and John Weeks, Presidio Press, 1114 Irwin St.,
San Rafael, Calif. 94901, 306 pp., large format, \$24.95. Stated simply, this is an encyclo-
pedia of handgun design. It covers the development and operation of over 2000 pistols
and revolvers (more than 600 are illustrated) as produced since 1870 when the metallic
cartridge was introduced. Colt, Smith & Wesson, Ruger, Browning and Luger are
covered, of course; so are Acha, Bolumburu, Errasti, Krnka, Pfanni, Zulaica and over 200
more makes. The publisher claims every model worthy of note is covered, and it would
be hard to dispute this. In addition, appendices give basic data on these guns and their
ammunition, and a cross index makes it easy to locate individual models. A tremendous
reference book—and gun nuts will find themselves reading it word by word because they
can't help themselves.



Bear's Share

By Keith C. Schuyler

FOUR-TON AFRICAN ELEPHANT fell to a single arrow from Fred Bear's bow on safari in M
zambique.

THE WORD bear, with a capital B, is as common to archers as Babe Ruth is to baseball. Considerably fewer, however, are familiar with the fact that Fred Bear is a native Pennsylvanian.

As a matter of fact, Fred spent more than a quarter of his active and illustrious life in the Keystone State. He was born in Waynesboro and lived for some years on a farm near Plainfield. He was 16 years old when he moved to Carlisle, where he resided till the age of 21.

Although Fred Bear's best known address has been Bear Archery Company, Route 1, Grayling, Michigan, that place really served intermittantly as a base of operations while he hunted around the world and earned the reputation which places him at the top among contemporary bow hunters. Because he was as sharp in public relations as he was with an arrow, Fred's exploits

have been recorded in eighteen films which were recently combined and edited to thirteen half-hour television shows now being aired throughout the country.

Nothing need be said here to enhance Fred's reputation, for a literary dip into the more than 76 years of his life provides a total experience to enjoy. But it is one which can likely never be emulated in total, as some of the trophies that Fred collected with the bow are no longer legal game.

As a youngster, Fred hunted deer, rabbits and game birds, and had his own trapline near his Pennsylvania home. He became interested in patternmaking, a skill that was to become important in the direction that fate led him, for at age 21 he headed for Detroit to work in the automobile business. There, in 1927, he saw Arthur Young

m, "Alaskan Adventures" (see August, 1978 column) and arranged a meeting with Young.

Fred was quickly hooked on bow hunting, but he had great difficulty in buying archery tackle. What he did find didn't suit him. So in 1933 he set up his own workshop to make bows and arrows by hand. His garage-factory was soon bulging with business. As a left-handed shooter, Fred was quite aware of the need to accommodate all archers.

By the end of World War II, he had outgrown several progressively larger buildings and he looked afield. Grayling, Michigan, 200 miles to the north of Detroit, provided a closer source of raw materials and an environment that suited him. Located on the AuSable River, Grayling had a rugged outdoor atmosphere. There were 30 employees at the new plant. Today the roster lists about 350.

Although Fred's interest was primarily commercial and an outlet for his inquiring mind and considerable abilities, it was only natural that he should personally field-test his new and old inventions. Continued growth of the business permitted him to take time to collect many big game trophies. At various times he had world records for six species—brown bear, barren ground caribou, mountain caribou, Canada goose, elk and stone sheep. All but the Alaskan brown bear were taken in the 1950s.

Other Motivations

Fred has always loved hunting for its own sake, but his constant search for new trophies also had other motivations. One was simple curiosity to determine how effective an arrow could be on big game species around the world. This naturally elevated the bow as a proper hunting arm, and the ensuing promotion did much to build Bear Archery Company into the biggest in the world.

This search for adventure produced some hairy experiences and expensive frustrations.

For example, in 1960 a try for a polar bear was ruined when the animal charged him. It had to be gunned down



FULL-GROWN LION—the species which most represents Africa in the minds of countless hunters—was taken by Bear on one of his archery hunts there.

at just 12 yards. He tried again the following year and again the bear charged, to be dropped by the backup gun at 20 yards. Finally, in 1966, after 25 days on the Arctic ice cap, Fred brought down a polar bear that was a legitimate archery trophy. He also took a huge grizzly along the Kispiox River in British Columbia when the shooting distance was only 15 yards.

In 1963 Fred took a bengal tiger while a guest in Phoolsagar Palace of the Maharajah of Bundi. The following year he dropped a four-ton elephant with one arrow at 40 yards while hunting in Mozambique. On this one, the native trackers ran away and Fred stood his ground until he could get off his shot.

He went back to Africa a year later to seek out the king of beasts, the male African lion. He was successful, and his became only the sixth lion to be downed by bow and arrow in modern times. The first five had been taken in 1925 by Art Young and Saxton Pope. As icing on the cake, Fred killed a Cape buffalo, considered by many hunters to

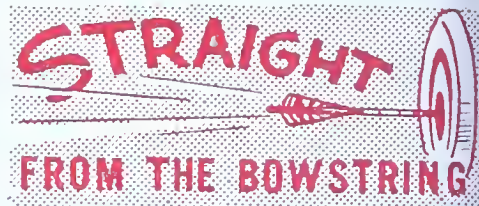
be the most dangerous animal in the world. He made this kill with the fore-runner of the current Bear takedown bow. He wanted to satisfy himself it was adequate before putting it on the market.

After getting his polar bear in 1966, Fred planned to further field-test his takedown bow the following year. He was successful and climaxed the year by going to South America to hunt on the Island of Marajo, located in the mouth of the Amazon River, Brazil. There he took an Asiatic buffalo with a horn spread of five and one-half feet and an estimated weight of 1,800 pounds!

Record Available

Although most of Fred's hunts might be considered full blown safaris because he took along a retinue of photographers, guides and whatever else was needed, it is fortunate for today's archers that he did so. The record is available for all to see and enjoy. Fred Bear has nothing left to prove. He's done it!

Further proof is displayed in his famous Fred Bear Museum. This is the showplace of Grayling. The entrance is flanked by authentic totem poles from



Alaska. There also are life-size replicas of a polar bear and a Kodiak bear sculptured in fiberglass. Aside from the usual gift shop, the walls of the museum are covered with large and small mounted game animals from three continents. They vary in size from the pine marten and bobcat to moose, caribou, elk, mountain sheep and grizzlies, all taken with the bow and arrow. One wall is devoted to Africa, with Fred's bull as a centerpiece. Other specimens include the eland, kudu, sable, impala, warthog, topi, waterbuck, reedbuck and Cape buffalo. A large center area is devoted to full animal mounts in natural poses, including an African lion in combat with a Cape buffalo, a Bengal tiger, Yukon wolves, Alaskan moose, Arctic fox, and Fred's Kodiak and polar bear mounts.

In addition to the trophies displayed here is found the finest individual col-

KING-SIZE BROWN BEAR, taken by Fred Bear in southeastern Alaska, was mounted life size and is now displayed in museum in Grayling, Michigan. Inset shows closeup of front foot and claws of this great trophy.



lection of archery artifacts in existence. There are native Indian tools, weapons, decorations and art. Exotics include artifacts from the land of the Eskimo, Japan, Persia, the Congo, the Far East, etc. A collection of bows and arrows of all types and sizes from many eras and stages of antiquity is probably the most interesting to the casual tourist and archery enthusiast alike. The museum was opened to the public in 1967, and there have been numerous additions since that.

After all this, there is a second-floor theater which will accommodate about 75 people to enjoy bow hunting films in sound and full color. It is a memorable stop for anyone interested in any phase of archery.

Although archery has been good to Fred from the early days when he was a tournament shooter to the present, he has returned much to archery. It was his love of the outdoors that got him into archery and bow hunting, and he has contributed heavily to maintain a visible record and program for positivity. An example is the Fred Bear Sports Club which was started in 1972 for those who have an interest in archery and conservation.

My first contact with Bear goes back to the beginning of bow hunting in this state, when I abused one of his early mini-recurve models. Up to then my experience had been mostly with homemade offerings and some sad replicas of the English longbow. I finally managed to break the string on the Bear bow. My spare was a flaxen cord such as we made in those days with a loop in only one end. The other straight end was tied with a timber hitch directly against the bow nock.

Jumped the Bow

After the new string was attached, it jumped the bow on the first shot. The bow reversed itself and the string caught and nearly broke my thumb. Daunted, I restrung the bow. It broke on the next shot. It went back to Fred with a full explanation. He patiently explained how these newfangled bows with doubleloop strings worked and replaced the broken one. I still love it.



BEAR AND SCHUYLER pause for a chat at the National Field Archery Association shoot near Aurora, Illinois, in July 1978. Their common interests always provide material for discussion.

In the 45 years that Fred has been at the helm of Bear Archery Company, he has personally developed many ideas that had been only toyed with in the past. His bows continued to capture a large share of the market, and his broadheads were the most popular for many years.

An idea which has spread across the industry was developed as the Convert-a-Point, the screw-in adapter which makes it possible to change arrowheads with a few flicks of the wrist. Combining fiberglass with wood produced a superior limb that widened and strengthened recurves in a manner that revolutionized bow building at that time.

From the first bow case that marked the beginning of Fred's interest in commercial aspects of archery, he has acquired numerous patents on various bow sights, arrow rests, bow quivers and other items of tackle.

But, despite the contribution he made to developments in modern archery, Fred will likely be remembered best for his personal participation in the sport itself. And he has furthered ideas of sportsmanship with accent upon enjoyment of the hunt as primary, stress-

ing the slogan "To the true sportsman, the kill is anti-climax."

Among the laurels that have accrued to Fred are membership in the National Archery Hall of Fame, the Explorer's Club, the Adventurer's Club, Polar Club, Equator Club, Safari Club International and Outdoor Writers of America. He received the W. J. Compton Medal of Honor award in archery, the National and Sporting Goods Hall of Fame award, Winchester-Western's Outdoorsman of the Year for 1976, and the Sporting Goods Dealer Lifetime Career award.

In 1968 Fred sold his company to Victor Comptometer Corporation, a Chicago-based firm with wide interests in the recreational field. Fred continues as company president, and he still divides his time with trips afar. However,

he no longer is pressured into hunting and film making by the need to publicize his products and the company that he founded.

Although Fred spent the past summer in Grayling, he planned to move into a permanent home at Gainesville, Florida, before the year was out and become a permanent resident there. At that time, it is expected that Bearchery Company will have moved into a new plant in the same community. The museum will be moved there.

Our paths have crossed occasionally, and the tall, lean archer from Pennsylvania remains as affable and unchangeable as the first time we met. He is one of those rare individuals who can look back at his meeting with life and without equivocation, "It's been a pleasure."

Books in Brief . . .

(Order from publisher, not from Game Commission)

Game Loads and Practical Ballistics for the American Hunter, by Bob Hagel, Alfred A. Knopf, Inc., 201 E. 50th St., NYC 10022, 315 pp., \$12.95. Hagel has written hundreds of top quality gun articles, but I think this is his first book. It's a good one. Based on maybe four decades of experience on critters ranging in size from rockchucks to big bears, his comments deserve serious consideration and study. As the title suggests, his approach is practical—pragmatic. If a rifle/cartridge combination works, he recommends it . . . but he finds out how it works by using it under difficult conditions. A skilled handloader, much of this work revolves around the use of home-brewed ammo. It stresses the importance of bullet construction (an area too often ignored by would-be shooting authorities) in cartridges as small as the Hornet, as large as the 375 Magnum. This is the kind of information that's invaluable to a hunter.

Do-It-Yourself Gunsmithing, by Jim Carmichel, Harper & Row, 372 pp., \$13.95. Longtime gunwriter, shooting editor of *Outdoor Life*, competitive target shooter, worldwide hunter, gooseblind raconteur, Tennessee hillbilly. . . . and now Carmichel proves he's a top-level do-it-yourself gun butcher. He always claimed he paid his way through college by whittling fine gunstocks, but maybe we didn't quite believe him. This book—and a couple of his stocks we've seen—prove he was truthful. There's an awful lot of good basic information here. The tools needed and how to use them; various aspects of stockmaking—not only inletting and shaping but also methods of fitting fore-ends, curved steel buttplates and grip caps, glassbedding, beginning checkering and inlaying, how to make a hinged floorplate, install double set triggers, etc. This book won't put Biesen or Burgess or Griffin & Howe out of business—it wasn't intended to—but it will be a big help to the skilled amateur.

Remington Rolling Block Firearms, by Konrad F. Schreier, Jr., Pioneer Press, Union City, Tenn. 38261, paperback, 61 pp., \$4.45, delivered. Historical background on the famous single shot rifle and handgun design that was a mainstay in Remington production for 70 years. It found favor with the military, with countless hunters, and with long-range target shooters, now is popular with collectors. Many photos and illustrations.

Is confusing, hectic, and frustrating, but here are a few pointers on. . . .

What To Look For in a Deer Rifle

By Don Lewis

Photos by Helen Lewis

BEFORE I PHASED out my scope mounting and rifle sight-in shop to tie up gun writing, one of the toughest questions tossed at me was: "What is the best deer rifle?" In many cases, a rifle had already been purchased, and this led to the second question, "Do you think I bought the right one?" It didn't seem to make any difference what type of action, caliber or chambering had been bought, the new buyer still felt insecure.

Naturally, there is no cut-and-dried answer. To name any particular brand or caliber/cartridge would open the floodgates. I will admit just going for the monstrous Magnum would have guaranteed ample power and speed, but I always tried to be more honest than that. There are many facets to be considered when choosing a deer rifle. There's far more to a whitetail outfit than just pure power. The rifle and the hunter must be compatible.

First off, no centerfire cartridge above 224 caliber is inadequate for whitetail hunting. I'm not a strong advocate for any of the 6mm's, especially when varmint weight bullets are used, but the 6mm cartridge in Winchester, Weatherby, and Remington is exceedingly popular. The 25-06 falls into a similar category, but I think a lot more new hunters will go for the 25-06 since it is a fine varmint/big game cartridge. I always thought the combination category was held by the Winchester 284, but now that it's been discontinued, the 25-06 is a strong contender.

If nearly every centerfire cartridge is adequate, what's all the fuss about? As far as I'm concerned, most of it is psychological. It's not so much what ballistics or a cartridge's history shows,



MAUSER AND RUGER bolt actions flank Remington pump, while Winchester M88 lever action makes a fourth. Designs like this represent some of the choices available to serious deer hunters.

but what is ingrained in us. We have strong ties with those who taught us to hunt or with certain hunting companions. We have implicit faith in Uncle Fred or Cousin Bob, and we believe what they used so successfully has to be the proper choice. I appreciate those

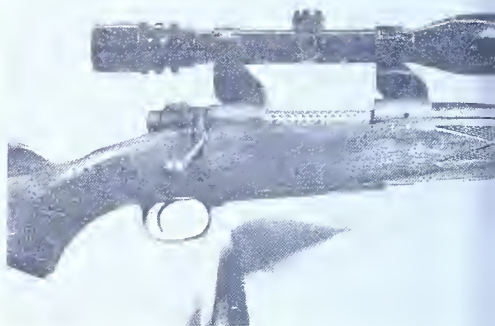


beliefs, and I share some myself, but in many cases, this approach is not sound thinking on our part. What a friend or relative has scored with year after year isn't automatically guaranteed to be the best cartridge or rifle type for me.

The physical build of our bodies is a deciding factor. Also, we are vastly different in temperament and psychological requirements. Our lifestyles are not the same, nor are the cars we drive or the homes we live in. This points out emphatically that we must be cautious and use sound judgement in buying a rifle. There is no solid reason for us to be followers; buying the new whitetail outfit has to be the end result of research and serious thought.

Since it boils down to a personal matter, the first hurdle is the action type. Too many times, this is overlooked, only to be regretted later. A bargain price or a hunting buddy's influence often determines what is purchased. Don't get caught in this situation. If the wrong type of action is bought, nothing else really matters, and the new outfit will never be satisfactory.

The bolt action leads the pack nowadays, but the pump and lever outfits have been hanging tough for decades, and there's no sign either will be pushed out of the picture. The bolt is the slowest on repeat shots, with the pump heading the list, but this is only important where firepower is the main consideration. The emphasis today is on bullet placement, and the era of firepower is declining. The truth is that



each type of action has a special appeal to certain individuals. I prefer the single shot rifle, but I never expect to take a running shot.

With much of today's hunting being done on a mobile basis that requires considerable unloading and reloading, the type of magazine is of utmost importance. The detachable magazine clip has suddenly hit center stage, and several major gun builders offer rifles with the clip. The nice part about it is that the detachable magazine is offered in all types of actions. Remington has in their 760 pump, Browning offers it in their BLR lever outfit, and Savage Model 111 Chieftain bolt action carries a clip. There are others, but this indicates the field is pretty much covered.

I'm sorry to say I don't have much love for the hinged floorplate. I know it has a long and nostalgic history, but I have to confess my association with this setup leaves a lot to be desired. With cold, numb hands, I usually dump the shells in the snow after breaking a thumbnail unlatching the thing. I don't want to get too involved in this, but a new gun buyer should give it some thought.

Too many times hunters talk about caliber when they are referring to the cartridge. The caliber is the measurement of the bore, normally in thousandths of an inch, but the same caliber can have a host of cartridges.



OPEN scope covers, far left, are handy in bad weather. Low Redfield Jr. mount allows solid cheeking of stock, while "see-through" type, left, permits use of iron sights if needed. Right, Chris Rollison, 12, Mesdale, with his first deer, taken with traditional type outfit, a 38-55 Marlin lever action.

embered for it. Take the 308 caliber as an example. It runs the gamut from the small 30 M1 Carbine cartridge used in World War II to some of the largest Magnum cases. I think it's safe to say the 308 has the largest selection of cartridges to choose from, including the 300 Savage, 7.62 Russian, 308 Winchester, 30-40 Krag, 300 H&H Magnum, 300 Winchester Magnum, 300 Weatherby Magnum, plus a number of wildcat versions.

The mistaken belief that the bigger the cartridge the surer the kill has led many a hunter down the wrong trail. If cartridge size is going to be the main consideration, stop at nothing less than the new Remington 8mm Magnum or the 378 Weatherby Mag. I've shot both of them dozens of times, and if they hit hard out front as they do coming back, they're in a class by themselves. I'm doing a little kidding here, and the two excellent Magnums have a genuine place in the big game category, but neither is necessary for whitetails.

Magnums Too Much

I've often been asked why I don't go all out for the Magnums since they possess considerably more hitting power. Using a super power cartridge on whitetails is equivalent to using varmint cartridges for squirrel hunting. I watched Bill Nichols of De Young drop one with my test 8mm Magnum, and it was evident the powerful cartridge was whipping a 220-grain slug out the muzzle at over 2700 fps was first and last designed for moose and elk.

I'm all for sticking with reality, and this indicates beyond a doubt that conventional big game cartridges are more than adequate for deer. I lean toward the Remington 7mm Magnum due to a good choice of bullet weights and be-



cause enough speed can be generated to cover long distances. In other words, the 7mm Mag is a flat-shooting cartridge. However, it is not alone in that class. The 270 Winchester and 30-06, to name two, can accomplish the same feat, though the 7mm Magnum will up the velocity significantly with the same bullet weights. I consider that important for my style of hunting, but it certainly isn't enough to base an argument on.

While on the subject of cartridges, I often get letters from disappointed readers who want me to lay it right on the line about certain ones. I've been asked to admit the 30-30 is antiquated, inadequate in power, and should be phased out. I have had similar requests for the 270, 30-06, and the 6mm's. In each case, the hunter had lost a buck and blamed his failure on the cartridge. In several cases, I was rebuked for not telling the truth about specific cartridges the letter writer thought to be inferior, and adjectives such as "cowardly" and "chicken" were used. Several went so far as to claim I was afraid of the gun companies. There is no truth in those statements, and there is no ballistic reason to downgrade cartridges that have been used successfully for years.



M94 Winchester carbine, left, is the best selling deer gun ever made, but its handiness is rivaled by custom short-barreled 308 Mauser, which offers more power and range.

Once, after writing some nice comments about the old 30-30, an irate reader asked me to retract my statements since they weren't true. He based his opinions on the fact he had wounded three deer with the 30-30 without making a kill. When he wised up and purchased a 338 Winchester, his woes were over, he told me. Now it might have been fate or sheer coincidence, but the same mail delivery brought another letter from a hunter who agreed wholeheartedly with me and wanted me to know he had killed 35 bucks in 40 seasons and had used the same battered Model 94 Winchester 30-30. Now, what's a gun writer to believe?

It's difficult to suggest one cartridge over another one, but I would like to offer an emphatic reminder that more shots will be fired on the range than at game. I don't want to sound dramatic, but I love to shoot. Still, with all the affinity I have for squeezing off shot after shot, I don't relish the idea of being done in by a cartridge that beats me black and blue or causes a double dipper headache. It's true all cartridges

have some recoil, but the installation of a recoil pad or a shoulder pad will usually bring things down to livable limits. The hunter should enjoy the practical sessions.

The hassle over bullet design has sent many letters my way. I don't know of any concrete method to study expansion. I have a box for testing, but there's no way of knowing what takes place when a bullet hits. I sometimes think bullet weight is more important than bullet design. The goal of the bullet designer is to get controlled expansion and deep penetration. Lightweight bullets have a tendency to break. Speer's Grand Slam and Nosler's partitioned slugs are designed to retain a high percentage of the original weight. The solid lead balls used by the flake lockers lose very little, but this isn't the case with the high speed jacketed bullets. Even heavy bullets can shed a lot of weight. The 180-grain Speer Mag with a muzzle velocity of 2700 fps in 30-06 was reduced to 112 grains of covered weight while penetrating 12 inches of sand and sawdust on range.

During my younger days, deer hunters sought the heavy bullets. The 180-grain was common in the 30-06, and for some strange reason, the 220-grain slug was a favorite of the Krag user. I wonder if going too heavy isn't just as bad as going too light. Last season I connected on a doe with the 175-grain Grand Slam from my Ruger No. 1 Model chambered for the 7mm Mauser. It was a mere 85 yards to the standing doe, and the rib cage should have been quick and clean. It wasn't, and the doe ran a good 50 yards.

Not Enough Resistance

The 175-grain bullet left the muzzle at just over 2400 fps, which is relatively slow for the old 7 x 57 cartridge, but it would have been better off with a lighter bullet. The 175-grain bullet, traveling at a comparatively low velocity and hitting only the thin bone structure of the rib cage didn't have any speed or resistance to open up. I could have pushed a 130-grain slug up to 2825, according to the No.

er Manual. The 175-grain showed a amount of expansion exiting, but e 30-grain probably would have had re explosive reaction.

Is been mentioned many times in e past, but it's worth reiterating here a paper ballistics can be misleading. is especially true with velocity fig- e. Factory figures are gathered er controlled conditions. For in- e, velocity readings are normally ired from barrels at least 26 inches . But the majority of production e are equipped with barrel lengths ng from 20 to 24 inches, and that ages the velocity significantly. The tic sheet may say a 75-grain 243 y will hit 3450 fps, but getting that n speed from a factory cartridge in duction rifle might not be possi- e. In other words, there can be a 25 to ot second loss per inch of barrel. n using factory cartridges on my nographs, I seldom get near the ished data. I'm sure the factory did d the answer must rest in the fact a the test rifle has a longer barrel.

Not Nitpicking

n not nitpicking, nor am I vgrading published data. My point t to accept it as absolute. Use it al for a guide. I've actually seen one e 6mm cartridges chosen over the e because the ballistic sheet showed d a 100 fps velocity gain with the e bullet weight. During the many ireds of velocity tests I've run, I've ated it's common to have a 50-100 s velocity difference in a 10-shot ng. Even in cases where many pre- uons were taken, such as weighing e powder charge to the tenth of a a, sorting cases, neck sizing, debur- ng the inside of the flashhole, etc., e would still be a significant veloc- y difference between the high and low a ngs.

Today's factory sighting arrange- e are nothing to boast about. Man- aurers don't install high quality e sights simply because most outfits illend up with a scope. With all the e has to offer, it's still unfair to dis- g the potential of the old buckhorn e aperture type with an ivory front e. The open sight setup is far from



M99 Savage 250-3000, another fine lever action, is tested on benchrest by Lewis. High velocity of this caliber gives long-range potential in light handy gun.

dead, and the hunter who feels comfortable with a V sight or peep would be unwise to install an optical sight. The thrust of this column is getting what is truly wanted in the whitetail rifle.

Last but far from least is looks. What about the esthetics of a rifle? Should a rifle be purchased because it has a cosmetic or physical appeal? Absolutely! Just as long as the buyer is sure it's chambered for the right cartridge. Hopefully, the rifle and its owner will spend hundreds of hours together, and the rifle's appearance should satisfy the owner.

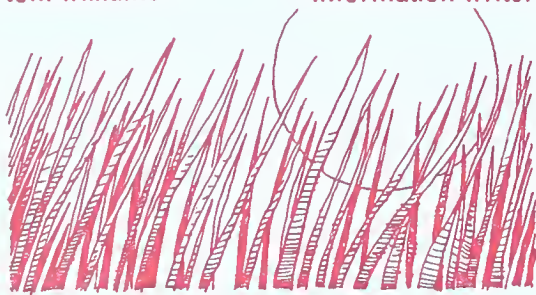
Buying a deer outfit is not an easy matter, nor should it be an instant decision. Time spent in research and personal evaluation will pay off. Seek advice, but analyze it carefully. Make certain what you accept is based on ballistic facts. Handle as many types of rifles as possible, and when the purchase is made, have a competent gunsmith make any necessary alterations.

I like to think of the new deer outfit as a lifetime investment. I don't entertain the idea of getting rid of it in a year or two. Fact is, it takes a couple of seasons just to get acquainted. I don't want to wind up this article sounding like a wise sage or an aging philosopher, but choosing the right rifle is somewhat like choosing the right mate; you have to feel it was the smartest decision of your life. . . .

In the wind

toni williams

information writer



After many years of confusion and lack of direction, water development agencies may soon learn how to comply with the Fish and Wildlife Coordination Act. The Act basically requires those agencies to consult with fish and wildlife agencies to minimize habitat loss when they're working on projects. They've been required to comply with it for many years, but there were never regulations to spell out how, so in most cases the Act was ignored. President Carter has made it clear that once such guidelines are set up, the agencies can no longer expect to sidestep.

Colorado has otters again. Nineteen of the sleek, playful animals were released in the state, from Newfoundland, Oregon, and Wisconsin. Most have gone to the Black Canyon of the Gunnison River, a remote, extremely rugged site with high water quality. Another 25 or more otters will probably be released in the future, with the hope that they will again breed in Colorado in the wild, as they did before this century.

Nebraska has become one of very few states to allow the grass carp in its waterways. It's not only allowing them, but encouraging them. While most states fear that the import may adapt to its new home and take off on a population surge—like the English sparrow, water hyacinth, walking catfish and other pests—Nebraska officials feel reassured by 15 years of testing in Arkansas that the fish have “no undesirable traits.” They can only breed, Nebraska officials point out, in “fast-flowing water” (like trout streams?). So they're going to stock them for vegetation control.

Unfortunately, wardens in Texas were unable to prevent poachers from poisoning eight miles of creek and killing thousands of fish. Fortunately, they did catch the perpetrators, who face fines of up to \$12,000 in mitigation for the fishery and who may be charged with violating federal statutes for misusing pesticides. The six men dumped rotenone, a chemical compound which kills fish, into Big Creek so they could easily pick up the fish they wanted.

New Jersey's governor has filed suit to sue the Environmental Protection Agency. He says their recent rules place an unfair burden on his state to clean up the air which other states have made dirty. In a letter to the agency's head, he pointed out that areas upwind of New Jersey contribute to their problem. He doesn't feel the smog problem can be solved until all states “do their share.”

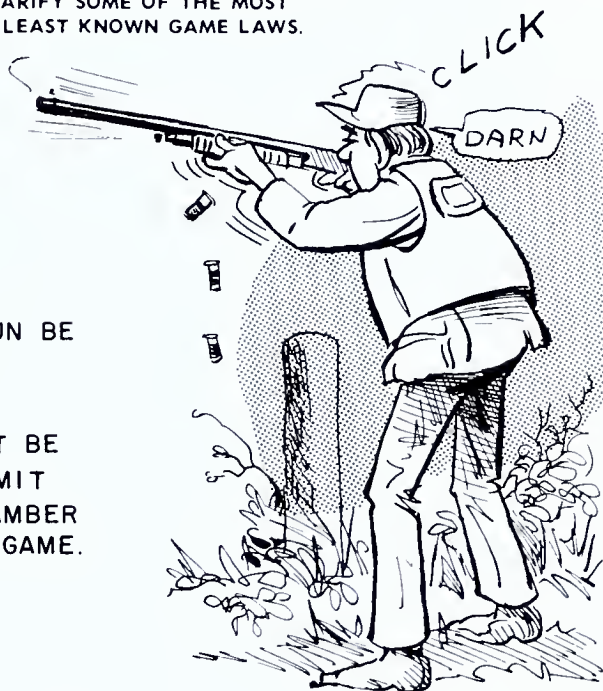
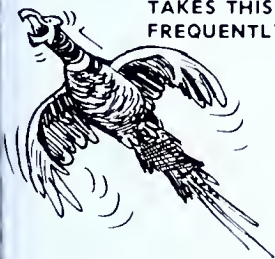
Two bills enacted earlier this year in Connecticut and scheduled to take effect in 1980 will help them manage their wastes. One is a “bottle bill” banning plastics and throwaway containers and requiring a five-cent deposit on beer and other drink containers. The other is a “litter law” which sets up an educational program to prevent litter and a youth-corps type program to clean up existing litter. It's important that the many small New England states have similar laws because neighboring states allow slobos to circumvent their laws by buying throwaways in neighboring states.

The U.S. Senate voted to adopt an amendment to the 1973 Endangered Species Act which, while it may ease some qualms of persons who feel the Act stands in the way of progress, still retains most of the strength of the original act. The amendment adds a measure of flexibility without which many environmentalists feared the entire Act was doomed. It allows, in cases of major conflict between endangered species and project development, a committee which may exempt species from protection if at least five of the seven members agree. The committee includes government environmental agency heads and the governor of each state involved.

IT'S THE LAW



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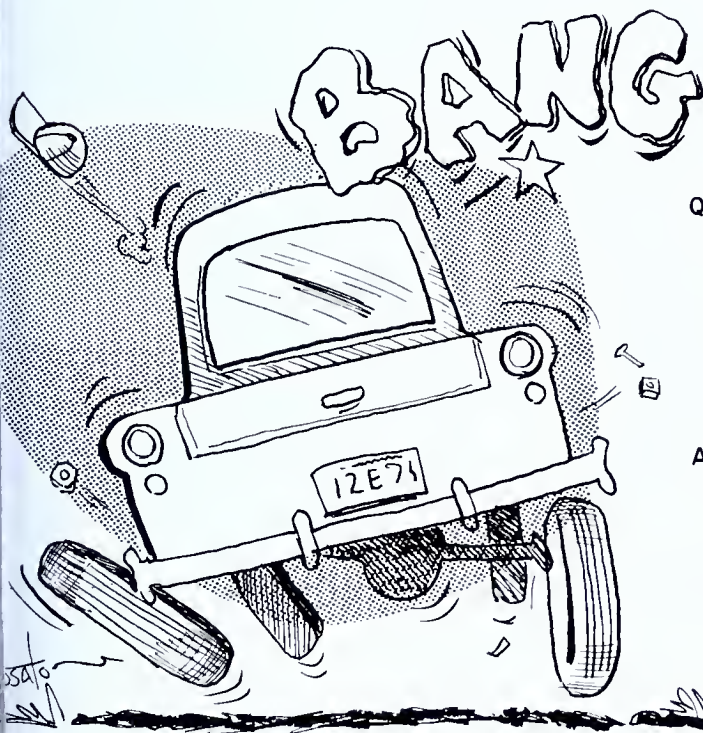


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COVER PAINTING BY NED SMITH

Take a moment to really look at a deer. What do you see? Venison? Deerskin shirt? Antler buttons for the shirt? A nice rack to brag on? Head mount for the den? . . . How about the zest of the hunt? Autumnal, then icy beauty enveloping the hunters? Pride and poignancy of the kill? . . . Elegance its arcing over a fallen log? Gray-brown shadow melting in and out of wintry trees? . . . Forest sprouts disappearing before they can replace timber? Winter wheat which will never be reaped? Orchard saplings browsed to finger-stumps? . . . Bambi grown up? . . . One animal—so many things in so many different eyes. Take a moment in the woods and fields this season . . . Reflect on the whitetail's many faces.

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Time to Go Again

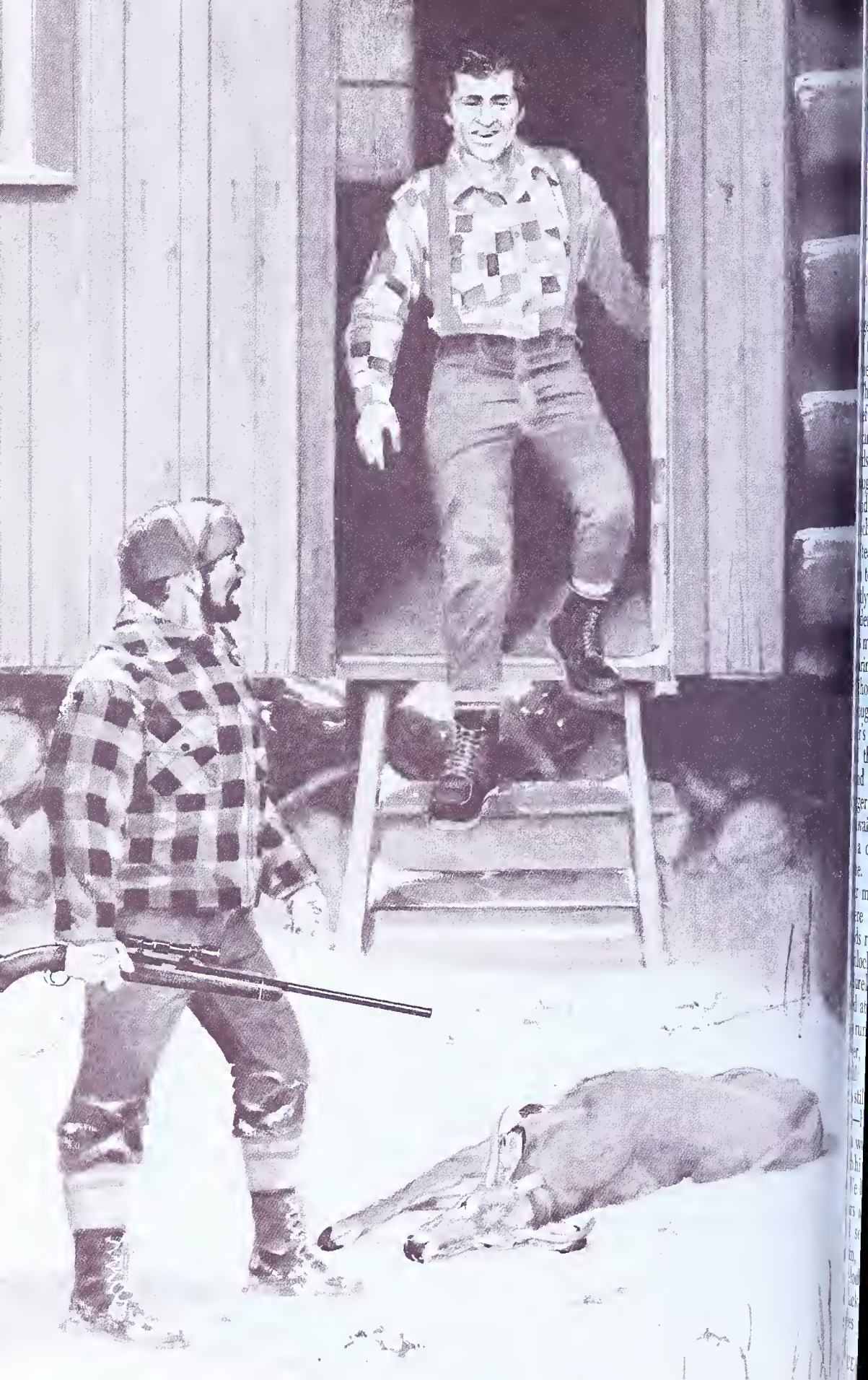
SOME HUNTERS ARE specialists. We all know people who concentrate exclusively on one species—usually a gamebird with challenging qualities. The ruffed grouse is a longtime example of the kind of bird which attracts a certain kind of hunter and continues its hold for the rest of that man's life. For several generations, articles in many outdoor magazines have shown this relationship, and wonderful books by Burton Spiller, William Harndon Foster, George Bird Evans and others have made it a part of our hunting heritage. Other sportsmen feel the same about woodcock (many of the grouse gunners have a spillover of affection for it), some opt for pheasants, and in the South the quail is king. A comparatively new bird to gain a dedicated following in this part of the country is the wild turkey, and aficionados, with the intense-eyed fervor of all new converts, have boosted the great gamebird to a position of prominence.

That's fine with us. Such feelings are understandable and admirable, and we have to admit there's one gamebird—never mind which one—we'd rather hunt than any other. But at the same time, it seems important to recognize that, in Pennsylvania at least, there's another species which cuts across all such feelings and sends more hunters into the woods and mountains than any other. It's the animal for which this state is famous nationwide: the white-tailed deer.

The whitetail is one of the world's top game animals. That statement will cause some raised eyebrows, but we'll stand by it. Admittedly, it doesn't have the glamour of the bighorn, say, or put the hunter in danger the way some African species do, but it's a true wild creature which uses its extraordinary senses to survive in great numbers while living in proximity to large human populations as well as in wilder regions. It's this very commonness which lowers its standing in the eyes of some. They evidently feel a creature has to be rare to be valuable. But the persons who hunt whitetails know better. They've been the losers too often when matching wits with this animal. Sure, it's possible to wander out on the first morning and have an unsuspecting buck walk up to you—that sort of thing happens every season. But don't count on it. You could spend a lifetime in the deer woods without getting one that way. Most hunters do.

But deer hunters keep going. They hunt in the most miserable time of the year, weatherwise. It's usually below freezing, sometimes below zero, with snow and bitter wind to contend with. It's often a tough chore just to drive to the hunting country, what with icy roads, snowdrifts, and such. Occasionally it takes a 4WD to get to camp. Then there is the hunting itself. Climbing steep slippery hills, facing for hours cutting winds that bring tears to the eye and then freeze them on the cheeks, being alert for long quiet stretches when there's no sign of the quarry but knowing that in seconds the only chance of the season may appear and vanish, sometimes seeing only one legal buck in a week's hunting—and passing it up 'cause it's just past shooting hours. Not only because the shot would be illegal but because to a deer hunter it would be unfair to the game. That's why we like deer hunters and why we're glad to be one of them. And now it's time to go again. Hope to see you out there.—*Bob Bell*





Once In a Lifetime

By Carl R. Foltz

SDDENLY, there they were again, heading back the way they had come. Quickly the rifle came to shoulder position and the scope found its target. The lead deer carried no antlers but the trailing one displayed a handsome rack.

They were slowing now, stopping for brief periods before moving on. The chance was good, perhaps a hundred yards in relatively open woods, although the deer were heading for a stand of hemlocks on the topmost ridge.

Ready now, take your time. Wait for it to stop in an opening. Now? No, not yet. Clear but the buck's shoulder is hidden by branches. Don't get excited, keep moving again and sure to stop in a clearing.

Those thoughts raced quickly through my mind as I followed the deer's progress toward the top bench in the hemlocks. Several times I could myself putting pressure on the trigger, only to stop short of full travel. I wait a better shoulder presentation for a clean, sure kill. Only it never came. Slowly, deliberately, the two deer made their way onto the bench. There only an occasional glimpse of the deer's heads revealed their progress into the hemlocks.

Surely many a hunter would have let it go at this fine buck, either while it was running or when standing in partial cover, so why hadn't I? Something within said wait, if you can't shoot now you still have an opportunity to go after it—he didn't see you, and has slowed down to walk. Plenty of time to catch up with him again.

We had been hunting this area many years now, my father, three brothers, and several friends. Our rustic old cabin, affectionately called our "hunting lodge," elicited fond memories, and the lack of electricity and other conveniences gave us an illusion of a bygone

era, a sense of pioneering completely lost in today's urbanized style of living.

And this back-to-nature appeal had already engulfed my teenage son, Mark, who had joined our hunting expeditions in his fifteenth year and dropped his first buck two years later. Needless to say, the approach of each new deer season was eagerly awaited, and even as the memories of past successes dimmed, the hope of new ones grew ever stronger. Recently, we had begun to include spring and fall turkey hunting to our list of annual pilgrimages to Potter County. The lure of God's Country had claimed an ever firmer grip on our busy lives.

It was with just such a sense of anticipation that we arrived in camp on Thanksgiving Day, 1975, for some late season turkey hunting prior to the opening of buck season. Even as we bagged a turkey and missed several others, the rising level of excitement did not betray the ultimate joy we were to know several days hence.

"Luckless" Don

My brother "Luckless" Don—so called because nine successive years of hunting had left him trophyless—finally connected on the last day of turkey season with a beautiful hen. That this was a good sign we did not realize at the time, being too engrossed in good-natured banter about the new, self-proclaimed, "great white hunter."

Temporarily suppressing our memories of the turkey hunt, each of us had eagerly headed our separate way well before daylight on Monday morning, the opening of buck season. The day began snowless and cold. With the first rays of dawn, the darkness slowly dissipated to reveal terrain we had only guessed at as our eyes had strained in the early gloom. Soon leaden skies gave warning of an approaching storm. Shooting had been light until the



WHILE MAKING A slow scan of the surrounding terrain, I was surprised to see another deer standing motionless on the mountainside. It revealed a set of antlers large enough to quicken my pulse.

snowsqualls struck, and then became nonexistent as both man and beast adjusted to the task of keeping warm.

The silent beauty of swirling flakes was diminished only by the blinding sting of wind-driven snow as it sought out each little pocket of comfort so cherished by the hunter in his losing battle to keep warm. My attempts to stay on the leeward side of a protective hemlock trunk—while the fickle wind blew first from one direction, then another—were ineffective at best.

Then, almost as abruptly as it had started, the storm passed, and a three-inch snowfall sparkled where the penetrating sun thrust its rays between the branches to warm the fleecy blanket. With the arrival of the sun, my spirits rose, even though I had not encountered a single deer and it was nearly mid-morning. A check with Mark, a hundred yards away, revealed only one sighting, a doe that glided by soon after dawn. Deciding to change my stand, I moved slowly through the

glistening snow onto a logging road followed it a short distance to a cul sac.

This slow, short journey produced my first sighting of a whitetail as it v bounding up the mountain, apparently put to flight by two trudging hunters whose tracks I encountered a few moments later. Unable to spot antlers, I could only marvel at its grace and agility as the animal cleared the brush and disappeared over a ridge. The decision to relocate my stand in the cul-de-sac was soon reinforced by the appearance of two deer running high on the mountain and disappearing almost immediately in the scrub growth to the left. Only a few minutes elapsed before shooting broke out on the mountain above and the deer returned, retracing their path and heading for the hemlocks. These same two deer were responsible for the disappointment already mentioned.

My grief in not having claimed the vanished buck was short lived. While making an habitual slow scan of the surrounding terrain after lowering my 303 British, I was surprised to see another deer standing motionless on the mountainside. The new arrival apparently had been following some distance behind the first two deer whose progress I had been totally absorbed. Its present position was directly in line with the blinding snow which appeared to be resting on a ridge behind the deer.

Even Less Chance?

Although my attempt to reposition the rifle without alarming the deer proved futile, the spooked whitetail revealed a set of antlers large enough to quicken my pulse as he bounded off in the direction of the hemlocks. Could I redeem my earlier failure and drop the forest beauty, or would I have even less chance than before to get off a shot? The buck's path, higher on the mountain than the previous trail, gave him more protection, and me less of an opportunity for an open shot. Again I played the waiting game—lost. Gradually, the receding deer slipped over the edge onto the be-

disappeared from view. To say I felt strated would be an understatement, I felt certain I had acted properly. The rifle was still braced against the e, its muzzle indicating the direction the departed whitetail while my eyes scanned the area from whence all the on had arisen. A sudden movement, d to my left, interrupted a self-ministered mental thrashing. Not 40 ds away came a troop of deer, ang across a wash and moving upward ward the high bench. In typical detail fashion, the first three in the ow-the-leader procession sported no ers, but the tall, milk-white tines of a fourth allowed no doubt that a d-size buck brought up the rear. Astonishment competed with disbe- as I realized that three rack-bucks a passed before me within such a rt time that I still had not lowered a gun from my shoulder. With delibe- re calm, I swung the rifle to bear htly high of the mid-point of the k's shoulder as he slowed behind n now-motionless does. Whatever the rce of their earlier fright, it was parent that all was now forgotten, my rsence not having been noticed. The trajectory of the 150-grain bullet old encounter no obstacles as it osed the 40 yards to its target. Vics of the great buck gracing the game ce and launching another successful uting tale crossed my mind as I etly squeezed the trigger. What happened? Where was the miliar roar of the 303? Why was the uk still standing, beginning to move n. My amazement failed to mask my ring heart as I realized that the rifle a failed to fire. No click, no resis- ue! Only the smooth, silent pull of trigger through its allotted travel. Was the gun jammed, broken? A uk check of the bolt and safety con- rred that both were in the proper rg position. Confused and excited euse the buck was now moving wy, I reshouldered the rifle, trusting o providence to correct any mechani- a deficiencies and deliver the elusive rry. But faith was no cure for an appar- ny frozen action, and again the rifle

failed to fire. In near panic, I bolted the gun, bringing a new cartridge into the firing chamber, and hurriedly took aim at the buck as he sought to keep pace with the does. On this squeeze of the trigger, the rifle roared, dropping the animal in his tracks. Hastily aimed and uncorrected for uphill shooting, the slug entered high, shattering the deer's backbone. Not the best shot, but certainly an effective one considering the circumstances. All the earlier frustra- tion and disappointment were erased with the crack of the rifle and the 5-point tumbling down the mountain. The time was 10 o'clock.

Effortless Drag

The downhill drag was effortless in the newly fallen snow. Near the bottom of the mountain, a fresh drag trail betrayed the passage of another successful hunter already on his way to camp. As I rounded the last curve in the trail, I saw a red-clad figure closing a gate to the meadow which bordered the mountain. Drawing nearer, I was surprised to find my "luckless" brother Don proudly beaming over a single-horn spike buck which he had taken at 10:15.

After congratulating one another and comparing trophies, Don told how he, too, had waited out the storm without spotting a single deer. Growing rest- less, he was about to move on when, suddenly, a movement caught his at- tention. The silent approach of a doe quickly raised his sagging spirits and brought new warmth to his chilled limbs. With renewed diligence, he scanned his surroundings as the doe slowly made her way past his stand.

There! Another deer, approaching from the same direction the doe had come. Immediately, his Bushnell scope revealed a legal buck. But as the 30-30 Winchester zeroed in on the shoulder, the buck slowed and whirled about.

Give

GAME NEWS

To a Friend . . .

The reason for his action was evident enough—the skittish doe, apparently spotting the rifle's movement, had made a hasty retreat to her companion's side. Knowing he had but seconds before the pair bounded from sight, Don had fired quickly.

The buck sagged noticeably and lurched forward, tracing a staggering path down the mountain. Hastening after the wounded animal, he soon found an opportunity to fire a second round, dropping the deer permanently. It was then he discovered the buck had only one antler, having dropped the other some time before. Nevertheless, this hunting season had proved his best, considering that he had taken two of Pennsylvania's big three in as many hunting days.

Reveling in Good Fortune

As we stood swapping stories and reveling in our good fortune, a shout from the mountain above alerted us to the approach of two hunters with a deer in tow. Soon, the familiar figures of our father Raymond and brother Ray emerged from the woods, their drag rope stretched taut by a beautiful 8-point.

In the next few minutes, we learned that Dad had taken the deer at 10 o'clock, and that Ray earlier had collected a 4-point which he already had taken back to camp. Ray related how he and Dad had separated that morning on entering the woods, the older hunter staying near the forest edge while he had continued several hundred yards to his usual stand. The first hour and a half passed uneventfully while the slowly graying sky and an occasional snowflake heralded an approaching storm. From his position on a well chosen stump he could readily survey the much-used path which had yielded eight antlered deer to his gun in the past dozen years. He reminisced how Dad had first pointed out this location with the admonishment, "You'll get deer here, this is a good crossing." How right the older hunter had been. And now to make it number nine.

Such musing occupied his time as he carefully screened each opening so grudgingly afforded by the leafless

hardwoods standing guard around. Each log and stump had been meticulously catalogued as soon as it had gotten light, and the presence of any new discerned figure would get immediate attention.

And then, there it was, hard to believe right—a doe, standing motionless, staring intently in his direction. How long she had been watching him he did not know, for it was unusual to see a deer approaching from that direction. Wait, another deer—a buck! But he did not quickly as the revelation had come, as quickly had the whitetail wheeled about and begun a hasty retreat.

Taking aim at the buck—from a firing position while leaning backward to avoid an intervening cluster of trees—he quickly tripped off a shot. But the deer only lengthened its stride, kicking up leaves and snapping small branches in a bid for safety on the lower slopes of the mountain. Stifling his surprise at not having downed the buck, he leaned to his feet and hurriedly sought a new opening slightly ahead of the lost deer. The 4x Redfield had no more openings lined up with the opening when the familiar white flag made its fleeting appearance. The rifle cracked and the buck was down, vindicating the earlier miss.

Noting it was only 8 o'clock when he tagged the 4-point, he decided to follow Dad to this stand before dragging the trophy back to camp. With a bit of luck the older hunter, too, might be fortunate enough to bag a buck before day ended.

Warmer Boots

By the time Dad had arrived at the site of the kill, the gusting winds and accumulating snow had taken their toll, especially upon his feet. An agreement was made that after Ray reached camp he would return with warmer boots for the older hunter.

After Ray had gone, Dad settled down to watch and wait. The storm gathered strength, reached its peak, and then abated. Visibility improved, the cramped, chilled muscles demanded relief. Slowly Dad rose to his feet, altering his position in an effort to



AMOND FOLTZ, LEFT, AND HIS FOUR SONS, Carl, Donald, Richard and Ray, with the five bucks they took in the Sweden Valley area.

re circulation and gain a measure of
 anth through the activity. Move-
 net! Was that a deer? It was—and a
 eautiful buck at that!

oving down the mountain from the
 ech above, the ever-alert whitetail
 id the hunter and came to a halt
 ore 50 yards away. Trees and
 rches offered partial cover, but the
 ole head and handsome rack stood
 xposed. A good shot was required, one
 h this veteran hunter of some
 or-odd years in Penn's Woods had
 uccessfully completed many times be-
 or. The Winchester 270 came
 uthly to shoulder, and the scope
 ught the center of the neck where it
 isappeared behind the scrub growth.
 rifle barked and the 130-grain bul-
 et rove home. The old hunter had just
 lained an 8-point buck on his sixty-
 ix birthday. With a great sense of
 atfaction, he tagged and dressed the
 ill and settled down to await Ray's help
 n tagging out the deer.

hen he arrived at the stand at
 1:15, Ray was elated to learn of Dad's
 uccess at the same location, and im-
 mediately took the buck in tow. While
 descending the mountain, with Dad
 arrying the now unnecessary extra
 ocs, they recognized our voices
 elow and called out to us to await their
 arrival.

Who would have imagined, when we
 went into the woods that morning, that
 a father and three sons would drag out
 three antlered deer together at noon?
 Our spirits soared like the wild turkeys
 we had put to flight a few days before.
 Even an accidental plunge into the
 frigid waters of a mountain stream as I
 struggled with the 5-point produced
 laughter, and served only to dampen
 the body, not the spirit.

Our return to camp later that after-
 noon yielded more good news—two
 4-point bucks taken by our fellow-
 hunters, Dick and Harold. The aged
 gamepole creaked wearily that evening,
 its trophies casting six long shadows as
 the sun settled behind the mountain.

More Snow

Tuesday's drives moved many deer
 past the standers, but no legal buck.
 More snow arrived that night providing
 good visibility for Wednesday's hunt-
 ing. And luck was with us again that
 day.

Our youngest brother, Dick, began
 the day with a long trek deep into the
 woods following an abandoned logging
 trail by a small stream. Although deer
 were seen on several occasions, none
 sported antlers. Encountering several
 other hunters while retracing his earlier
 path, he chose to climb a steep ridge to

gain the advantage of height for exploring the surrounding terrain. Arriving at the top of the ridge, he was startled by a deer bounding from some fallen branches and disappearing down the other side of the mountain. The surprisingly brief encounter gave only a hint of antlers, but enough to spur him to action. Hoping to get another look at the deer, he rushed across the point, angling in such a way as to intercept the path taken by the departing whitetail. But, on reaching a hummock affording good visibility of the forest floor below, he was disappointed to find that the deer had vanished. Only the sound of his own labored breathing broke the silent stillness of the snow-covered woodland. Some distance below, a small mountain stream interrupted the all-white mantle, and beyond lay the ascending slope of the next ridge.

Returning to the place where he had first jumped the deer, he easily located the spot where the whitetail had bedded down in the early hours of the morning—a slight depression surrounded on three sides by fallen branches, with the unprotected side commanding an unobstructed view of the slope below. The wisdom and cunning of the deer's choice for a resting place fully impressed the hunter as he sought to follow the tracks of the elusive creature. The trail led over the point and down the mountainside to disappear beneath the boughs of a stand of hemlocks. Deciding not to press the deer but wait for some sign of movement signaling its location, he stood quietly.

Twenty minutes passed before he decided to resume the search for the vanished deer. Descending slowly through the hemlocks, he again found fresh tracks. He had followed them a short distance, when movement straight ahead, revealed a running deer. A buck!

Quickly locating a tree for support, he rested the rifle and followed the deer's progress across the stream, taking aim as the whitetail started up the slope beyond. The shot, muffled slightly in the snow-covered woodland, rent the morning stillness. But the deer did not fall, nor even flinch. Instead, the deer reversed its direction, then tracked toward the stream, then selected a new path and again started up the slope.

Surprised that he had missed, firmly resolved not to repeat the error, he carefully placed the crosshairs on the deer's shoulder and squeezed the trigger. The time the aim was true, and the deer was down before the sound had faded away. In the few short moments that he was at its side, the deer had slid a few yards downhill from where it had fallen, and now lay still. He was pleased to find that he had taken a young buck with six-inch spikes.

His arrival in camp later that day was a joyous occasion for all, for he had completed the family take—father and four sons, each having claimed a Pennsylvania whitetail in the same hunting season. What more could a family of trophyless seasons will come and go, but 1975 will never be forgotten. Truly, the Red Gods had smiled on us.

Ned Smith Turkey Print Available

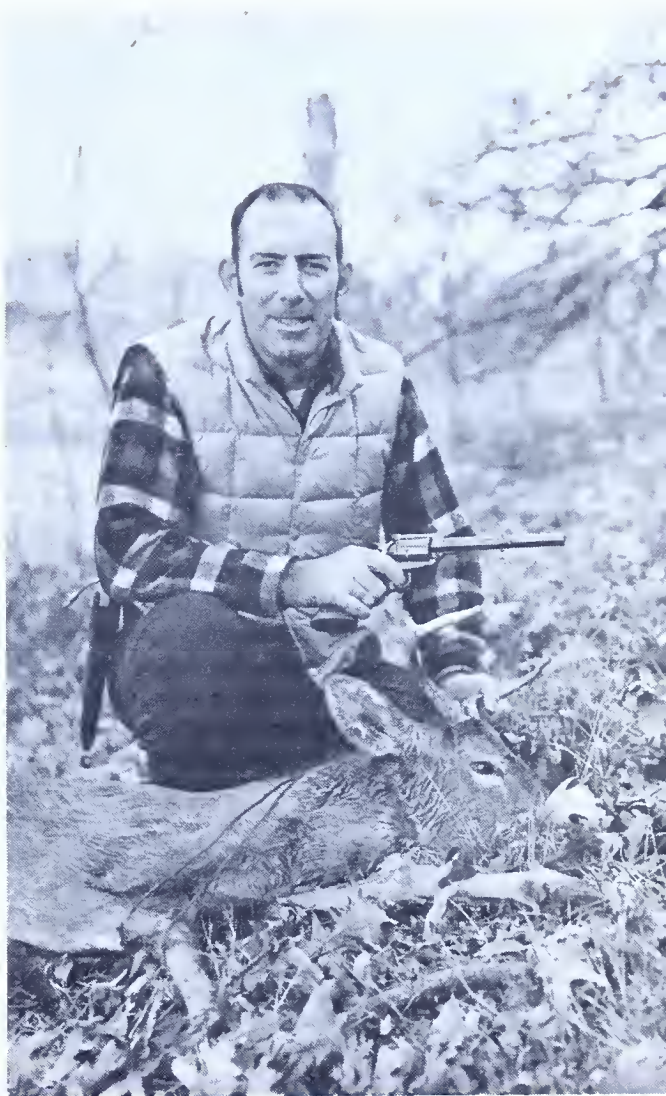
"Spring Gobbler," our April 1978 cover painting, is now available as a limited edition print. Ned Smith has selected, signed and numbered 600 prints. Overall size is 25½x18½ inches; plate size, 18½x12½ inches. Prints are rolled and shipped in heavy mailing tubes (add \$2 for flat shipping). The price is \$75 each, postpaid. Pennsylvania residents add 6% sales tax. Order from Ned Smith, 414 Shaffer Road, Millersburg, Pa. 17061. (A few prints of the goshawk—our March 1977 cover—are still available from the artist.)

My Hard-Way Whitetail

By Lowell W. Roberts

A BIG MULE DEER buck was my downfall. Not that he was all *that* big, not in the record book class by any means, but big when compared to the average Pennsylvania whitetail. Taken on a beautiful day in October 1966 near Wheatland, Wyoming, his heavy-boned, 13-point rack gave all the bucks I saw for quite a while thereafter a severe case of the punies. Little bucket-shaped racks that fit neatly close to the skull, almost hidden by big swelling ears, left me totally unimpressed. I didn't want to have to look twice to see a deer's antlers, and that's when I was gunning for a rack thirteen to fourteen inches wide, inside measurement.

Yes, I had become a horn hunter and in the next five or six years at least fifteen bucks with legal racks were

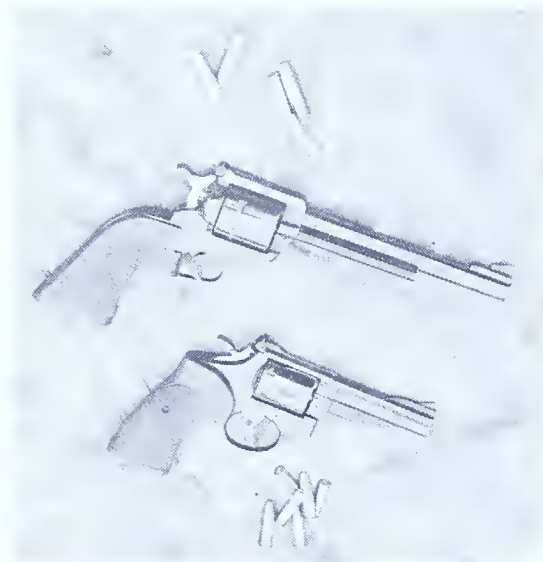


ROBERTS AND THE buck that gave him three practice shots before he connected. He began to wonder if he was going to run out of ammo, but the fourth shot from his Ruger 44 Magnum did the job.

glassed and passed up because they were too small. Most of my hunting buddies would only shake their heads in disbelief when I told them I had passed up a buck for that reason alone. "You can't eat the horns," they would chorus. As a result of my self-imposed restrictions, the only venison my family ate was that donated by my less particular but more successful friends.

I have no quarrel with any hunter willing to settle for just any buck, nor did I harbor any illusions about being a hotshot deer hunter; I simply felt deer were easy to find, and certainly large enough for the average hunter to bring

down with a reasonably well placed shot. And in no way did I ever feel cheated. As practitioner of the old Indian (?) method of hunting, where you walk one step and stand still two, the sights, sounds and smells of the beautiful farm country more than compensated for an empty game bag. When you are prepared and look for it, it is amazing how easy it is to find beauty in the outdoors.



ROBERTS STARTED HIS handgun hunting for deer with 357 S&W Combat Magnum, lower gun, which had adequate power at reasonable ranges, but later switched to the Ruger Super Blackhawk, top, in 44 Magnum. In the larger cartridge he uses 250-gr. semi-wadcutter bullets handloaded to 1200 fps. Accuracy is excellent and the combination is deadly on whitetails at woods ranges.

Then, too, just preparing for the season is always fun. Rifles and scopes have to be checked, ammo loaded or bought, and the weekends just prior to the "first day" would usually find me at one of the local running deer/turkey shoots where good friends congregate to tell tall tales about their experiences, drink scalding cups of he-man strength coffee to ward off the shivers, and, occasionally, even win a turkey.

Then something happened and for a couple of long seasons I didn't see any kind of buck, let alone one of trophy proportions. My hunting companions' snickers became fewer and fewer and I could sense a touch of pity in their comments. Even my kids stopped run-

ning to the door to see if Daddy had gotten a buck; they knew better. It was evident I had to re-evaluate my position, for as the song says it, "the thrill was gone."

Having been a handgun buff for many years, it was only natural that I should include them in my plans. If I couldn't get a buck with a braggin' size rack using a rifle, bagging a smaller buck the hard way would be the next best thing. I felt something like the muzzleloading rifle hunter must feel since my restrictions were self imposed too. Just in case that really long shot did present itself, I felt it would be prudent to tote along my old 270 Winchester but I'd lay it aside for any shot under 60 to 70 yards. Someone is probably thinking about this time, "My 357/41/44 Magnum will hit them every time and from a lot farther out than that too! Certainly it will. My guns will, too. But when I'm carrying a revolver I try to remember its bullet *starts out* with a lot less speed and power than almost any rifle cartridge you can name and has a heck of a lot less power when it gets out to where your target is standing. An hunted animal has the right to a quick and humane death, so I made up my mind to do my handgun shooting on at short range.

A Smith and Wesson 357 Comb Magnum was chosen as close to the ideal handgun under these conditions. Loaded with a 150-grain hollow point bullet, I felt it had ample power at any reasonable range. Carried in an altered Don Hume holster, it was easily and quickly available when needed.

Cold Windy Day

Buck season finally arrived and a cold windy day found Wayland Smith, Clyde McClymonds and me returning to the car after hunting on the State Game Lands near Cadogan in Armstrong County. An eye-watering wind carried Clyde's voice to me. "What's that in the grass up ahead? It looks like some farmer's goat has gotten loose."

I finally located a brown blur in the waving red grass—just in time to see it lurch to its feet and go stumbling off at a sharp angle to my right side, headed r

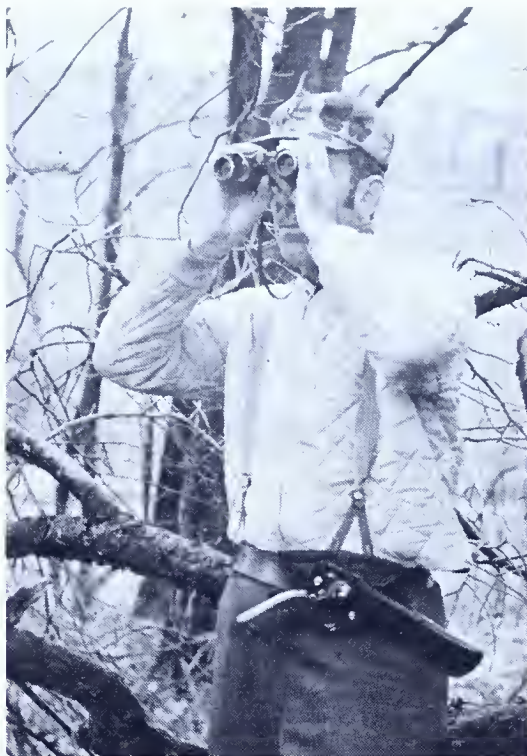
brushy gully not far away. My brain cried "*Deer . . . a buck!*" My gun wept up, cracked once, and a 7-point buck piled up in a heap, kicked once, and was still.

Well, I thought smugly, the long dry spell is over. Only then did I realize what had happened. In the quickness of the situation, I had blown the perfect 50-yard handgun shot and taken the buck with the rifle! An examination of the deer lessened my disappointment with myself somewhat, for it was apparent my shot had put him out of his misery. Some unthinking hunter had hit him earlier with a light, high-speed pellet designed for varmint shooting and only succeeded in inflicting a shallow but painful shoulder wound.

The Hard Way

My resolve to do it the hard way grew deeper. I added a Ruger Super Blackhawk 44 Magnum to my small collection of handguns and began work on a suitable handload. I soon settled on a 250-grain cast semi-wadcutter bullet urged along by a healthy charge of Hercules 2400 powder. This load has given me numerous groups in the 2½-3 inch category and averages 1200 fps on my Oehler Chronotach. It is a powerful, fairly flat shooting load that won't beat up gun or shooter with extended use. A Bucheimer Pacemaker holster originally intended for use with a long-barreled Colt Single Action Army was wet formed to a perfect glove fit and angled so the gun butt was angled naturally into my right hand from the cross-draw position. Carried in this manner the gun is protected from the weather by the bottom edge of my jacket or rain suit but can still be brought into action with a minimum of motion, a point important to a handgun hunter. Preparations completed, I eagerly awaited the arrival of the next buck season. This time it would be the handgun, all the way!

The acid test came on Thursday morning of the first week. An all night rain stopped about dawn and a gusty south wind held a promise of snow. I knew the combination of weather and lessened mid-week hunter pressure



BUCHEIMER CROSS-DRAW holster made for Colt SAA was wet formed to perfect fit on the big Ruger. Position makes for easy access to gun, yet it can be covered by bottom of a rain jacket in bad weather.

would work together and some deer would probably be found on a wooded bench not far from my home. After a leisurely breakfast I left the house and soft-shoed my way through two deep hollows where deer often hole up when the weather gets rough. Quarter-size snowflakes greeted me as I emerged into a twenty-acre hilltop field not far from my objective. Looping wide to the right so the wind would carry my scent away, I made my way to the brow of the hill and snaked under a barbed wire boundary fence. A few carefully chosen steps took me close to the brow of the hill where I could scrutinize the trees below. And there he was. I didn't take time to count the points, but my quick look revealed he was more than just a spike.

Quickly squatting down out of sight, I removed my binoculars, cap, gloves and down sweater. Cool and calm, that's me, I thought. Nothing was going to foul up this shot. And a tough shot it would be, for I had to drive my bullet between two large trees that appeared



ROBERTS TOOK this small buck near his home while using the 357 S&W with 150-gr. handload. A number of the more powerful handgun cartridges will do for deer, if the hunter is truly expert in their use.

close together but were actually a few yards apart, one in front of the other.

And now, the moment of truth.

Gun in hand, I rose to a standing position. The buck was lying contentedly as before, facing slightly downhill. Grasping the big Ruger with both hands, I aligned the sights on the spot

where his antlers joined the skull . . . held . . . squeezed gently . . . and . . . **BOOM!** Two does I had not seen before bounded noisily away, but my buck, now on his feet, was still in the same spot facing to my left. Holding for the center of his head I quickly lined up and squeezed again. **BOOM!** With one quick jump the buck swapped ends in mid-air and now stood facing the other direction. **BOOM!** Same old story. I began to wonder if I was going to run out of ammo before he got tired of jumping around like that.

Buck Fever? Me?

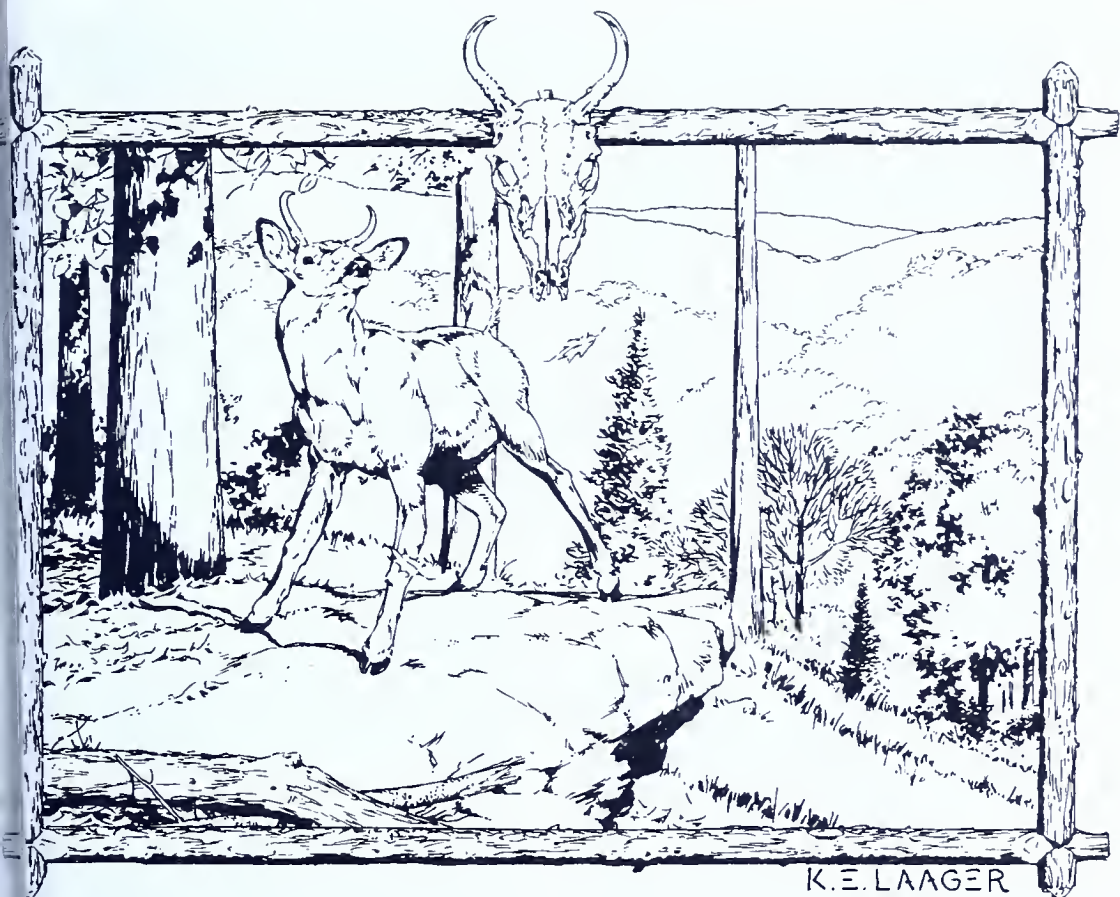
Bending over with my hands on my knees, I took a couple of deep breaths. Funny how fast my heart was going. I must still be winded from climbing out of that last hollow a while ago. Buck fever? Me? Never! Calmed somewhat and more than a little anxious my friend would get impatient and leave for less noisy parts of the county, I once again stood erect. "Glory be, he's still there!" I muttered.

Thrusting my left hand deep into my pocket, I assumed my best target line stance, drew a careful bead and squeezed the trigger once more. The time the bullet found its mark. My deer hunt was over. I was a confirmed handgun hunter.

This isn't the end of the story, just the beginning. I'll be out there again next year, Lord willing, still totin' the revolver, looking for a buck like the one I got last year—a buck with a storied death wish. Seems that's the only kind that can hit.

Deer and Bear Records Book Available

Pennsylvania Big Game Records, 1965-1976, is the complete report on the Game Commission's six statewide deer and bear scoring programs. This 112-page paperbound book contains a complete integrated listing of all Pennsylvania harvested deer and bear which have been measured during the programs (using the Boone and Crockett system) and which meet the minimums established by the Commission. In addition, personal accounts of most of the hunts which collected the top trophies are included, along with photos of more than 160 high-scoring deer and bear, annual harvest totals from 1915 through 1976, and other informative items. Price is \$1.00 delivered, from Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120.



One hunter's thoughts on . . .

The Wily Spiker

By Scott Steiner

He is Pennsylvania's ridge runner. His hooves are cut from rocks and bones and are generally small so as not to be clumsy in the state's toughest terrain. He is tough to the hilt and has the ability to survive like few other animals. Although not big in size for his species, what there is of him is sheer

power. His legs are hardened muscle from roaming the ridges and mountain tops. He is laughed at by many for his size and the nature of his antler growth, but to a few he is the king of Pennsylvania's big game. He is the mountain buck, better known as the wily spiker . . .

A SHOT RANG out across the basin I was looking into. A man I hadn't noticed before, just a little over a hundred yards away, swung into action. I could see three deer coming my way fast, but if they followed their present course they would first have to pass only yards in front of the other hunter,

whose gun was already shouldered. By the time they got to him, they were merely trotting along, but to my surprise he did not shoot.

Up the draw they came toward me, and although I felt certain from the other fellow's actions they were does, I still shouldered my rifle. Past me they

went in single file—doe, doe, and a doe. I lowered the 30-30 and watched as they climbed the ridge. Just as they reached the top, I heard two quick shots. The man below me walked to my stand, shrugged and said they were bald when they passed him. I agreed.

We climbed to the top, to find an elderly man kneeling over a spike buck. One antler was just over three inches long, the other not quite as big. Not meaning to belittle the hunter or his buck, I mused, "Just a spike." The old man looked up and said, "Yeah, but he got by you." As I walked back to my stand I wondered how he had got by me at such a close range without exposing those horns. And how had he got by the first hunter as well?

Which One?

Back on my stand, I unwrapped a sandwich as my mind wandered to another first day in Forest County. It was only my second year of hunting and I was certainly not a seasoned veteran. It had been cold all morning and when the sun finally hit me, I was ready to enjoy it. I leaned back against an old oak and relaxed, warm at last as the December sun beat on my face and chest. Then I heard a noise to my right, and watched as four does walked past my stand. Suddenly from my left three deer came crashing in my direction,

and I heard my father shout that one was a buck. Two small does and a spike passed only yards in front of me. I swung my trusty old Model 94 to my shoulder. By now the three deer mingled with four others. Seven deer only fifty yards away and one of them a spiker, but which one? I was still wondering as they trotted out of sight.

That had to be one of the dumbest things I've ever done hunting bucks. But it wasn't as stupid as something I did—or didn't do—one day down on Bear Wallow Mountain in Somerset County.

That, too, was a season opener, only I was older than that day in Forest County. On this particular day I gained much more respect for the wily spiker. I was seasoned by now and knew if you hunt the mountains a keen eye must be part of the basic equipment. A shot was fired above me, and as I turned a lone deer bounded in my direction. The 30-30 settled snugly into my shoulder and the deer stopped less than 25 yards away and looked back over its shoulder. My Winchester now sported a 4x scope and the spikes were easy to spot. My finger started to squeeze the trigger but at the last moment stopped. Not quite legal, I thought. But, I reasoned the man above just shot so it must be legal, and my finger began to squeeze again. Just because he shot doesn't

Pennsylvania Game Commission Retirees

Name	Title	Hometown	Service
J. R. Stansfield	Clerk III	Lancaster	2/19/71-9/2/77
D. E. Gaffney	Clerk I	Harrisburg	7/27/71-12/30/77
I. P. Bitner	Address Machine Operator	Harrisburg	2/1/60-12/31/77
G. Weller	Nursery Superintendent	Orviston	3/7/49-12/31/77
B. B. Johnson	Address Machine Operator	Greenville, TN	9/12/66-1/6/78
L. V. Haines	Game Protector	St. Marys	6/15/59-1/6/78
G. X. Adams	Const. Inspection Supervisor	New Cumberland	4/17/70-1/6/78
J. Putnam	Game Protector Supervisor	Crosby	6/1/48-6/23/78
C. E. Jarrett	Game Protector	McConnellsburg	6/1/46-7/21/78
E. Parolari	Clerk-Stenographer II	Weedville	1/4/60-8/4/78
G. W. Cyphert	Automotive Officer	Apollo	6/1/46-8/4/78
R. A. Stidd	License Section Supervisor	Mt. Jewett	6/1/46-8/25/78

nake it legal, I thought, and my finger relaxed again. Two more times I tried to squeeze, but each time I concluded it wasn't legal. By now the buck had walked off, and I watched through my scope as he disappeared.

Just a spike, but he got by me. Well, at least I hadn't broken any laws.

Then two years ago a deer stood roadside at 30 yards, bald as could be. I scoped the critter for five minutes as it fumbled away. When it got about 80 yards, it turned at a different angle. Look and behold, there they were, a pair of spikes at least seven inches long. I took a shot, but it only scared the buck over the next ridge.

My sandwich was gone and I was about to start on a candy bar when I began to realize just how many times I had been outsmarted by the wily spiker. On almost all of these occasions, I had the buck sported a normal set of antlers I would have wintered over eating venison.

Then I thought of one of my most cherished moments, when I downed my first buck. Just a spike, I thought, as it ran up after it dropped. Now that I look back on it, it may be one of my best trophies.

Since then, I've shot only one other buck. It too was a spike but not quite the trophy the first one was. This one was bigger, easier to see and had little chance to hide, although he tried. He had only one spike. It was just too big or he'd probably still be out there . . .

No, a spike may not be the biggest buck in the state and may not carry a rocking chair rack like we all dream about the night before the first day, but he is the cleverest. He covers his rack with his ears and walks right past you unnoticed. He mixes in with does to hide his identity as a buck. He tests your judgement as to what is three inches and what is not. He focuses your attention on other deer around him by making even a 4-point look like a monster beside him. In grapevine or greenbriar his rack can rarely be seen. It takes a pair of mighty fine eyes to down him. So when you bag a spike, tag him with pride. When you tell friends the tale of how you outwitted him, tell your story with pride. Treat this deer and those who hunt him with respect, because in Pennsylvania where the mountain bucks roam the ridges, the wily spiker is king.

Books in Brief . . .

(Order from publisher, not from Game Commission)

Keepers of the Game: Indian-Animal Relationships and the Fur Trade, by Calvin Martin, University of California Press, 2223 Fulton St., Berkeley, Ca. 94720, 237 pp., \$0.95. Scholarly study of the breakdown of Indians' respectful relationship with their "wildlife brethren" and their subsequent part in the fur trade. The basic thesis is that when they were devastated with European diseases, Indians at first felt they had offended wildlife spirits; when trusted magical remedies failed, they blamed the game for not holding up its half of the spiritual bargain. Feeling jilted, they turned on game with vengeance. For this and other reasons, Martin feels there can be "no salvation in the Indians' traditional conception of Nature for the troubled environmentalist." Fascinating and stimulating, but not light reading.

Firewood, A Woodcutter's Fieldguide to Trees in Summer and Winter, by M. Michaelson, Gabriel Books, P.O. Box 224, Mankato, Minn. 56001, paperbound, \$3. Tells a layman's language how to recognize many common tree species, their heating value (BTUs per cord), etc. Valuable information in these days of energy shortages.

Waterfowling, a Sportsman's Handbook, by Monte Burch, Harper & Row, 10 E. 5th St., NYC 10022, 227 pp., \$14.95. The author, a Missourian, has spent decades gaining the Mississippi Flyway. Here he summarizes his experience, discussing the strategy of waterfowl hunting, duck and goose behavior, feeding patterns, habitat, etc., as well as blinds, guns, calling techniques and related skills.



MY '66 SEASON

By Rev. Wilson A. Shearer

IT BEGAN TO RAIN, just as the weatherman had predicted. The first drops spattered our windshield as we passed through the outskirts of New Cumberland. It was 4 a.m. on the opening day of the 1966 buck season—a season I can't forget though it's a long time ago now.

"Maybe it won't amount to much," I said hopefully, but the closer we got to our destination in Fowler's Hollow, Perry County, the harder it came down. As we bounced through the camping area of the park in our borrowed old panel truck, we snickered at the soggy plight of the tent dwellers who were just beginning to stir.

In due time we reached the end of the road—a dead end—and saw several vehicles already parked there. Some were empty. "Who could be goofy enough to go up the mountain at this hour in this mess?" I asked. Neither Cal, my fellow pastor, nor Ted, a hunting buddy, answered. I knew what they were thinking, for we had all been asked a similar question by our wives, who do not share our hunting enthusiasm. Some things defy rational explanation.

It wasn't long until Ted muttered, "Well, I'm going to take the plunge." He marched into the gloomy downpour. A few minutes later Cal picked up his brand new 30-30 Winchester and splashed up the trail toward the spot where he had dropped his first buck, a 6-point, the year before.

Return to Fowler's Hollow

Actually, it was because of my friends that I had agreed to return to Fowler's Hollow again. Although I had connected with a nice spike buck in that valley several seasons previously, I would have preferred to hunt at a farm or church owns along Sherman's Creek in Perry County. I had seen twin pointers there on several occasions and abundant sign all over our land.

But they wanted to hunt here, and in deference to their wishes, I said okay, but predicted that while we were gone someone else would clean off the farm.

I lingered at the truck as long as I could, hoping the deluge would stop or at least diminish. I mentally kicked myself for passing up all the wonderful rain gear in the store where I had bought my license. In desperation I cut a hole in a big sheet of thin plastic I'd stuffed in my pack and pulled it over my head. Arab-style headgear tied on with twine completed my outfit. I chuckled as I started the climb to the top of the ridge, realizing I resembled neither man nor beast in such a get-up.

"Walker"

Never having hunted in such a downpour before, I wasn't sure how to proceed. I didn't think the deer would leave their beds unless pushed, so I decided to be a "walker" rather than a "sitter." It was rough going. The wet rocks were slippery on the steep slope. I soon learned my makeshift rain gear wasn't waterproof and resigned myself to a good soaking.

The hours passed slowly. The rain continued, interrupted by brief intervals of drizzle. The clouds of fog were fascinating to watch as they moved briskly down the valley.

Finally I spied movement through the trees almost at the limit of my vision. Deer or another hunter? The excitement of possible action stopped the shivers caused by cold, wet clothes. The glimpse of a hairy brown hide is the best heater available to a hunter.

They were deer—several of them. I watched them angle up the hill toward me in single file. The first six were does, but bringing up the rear was tail-end Charlie with a nice rack. Lifting my 8mm Mauser rifle with the original 4x sniper scope, I got only a brief glimpse of antlers before rain blurred the lenses. "So what!" I mut-

tered, "I can always use the iron sights some clever German designer placed right under the scope."

I decided the distance was too great to attempt a shot with the open sights. Maybe in good weather, but not under these conditions. I had to wait for the deer to shorten the range. They moved out of sight into a laurel thicket, still headed in my direction. Rifle rested against a tree, I waited . . . and waited, and waited some more. Could they have bedded down?

Thick Fog Cover

Finally, under cover of a thick cloud of fog, I sneaked toward the laurel, expecting an explosion of deer at any moment. Nothing happened. They were gone. Disappointed, I soon felt the chill creeping through my bones again and the rest of the day was pure misery. By 4 o'clock I had *had* it! Time to head for the truck. For the hundredth time my wife's parting words rang in my ears: "You must be crazy to go out on the mountain when you know it's going to rain!"

The rain stopped and the sleet began; shortly that changed to snow. By the time we reached my brother's farm at New Grenada a few inches had accumulated. We could hardly get into the cabin for all the wet clothes hanging up to dry. We crowded close to the roaring fireplace and had a wonderful time swapping our stories of the day. We whooped and hollered with laughter while hearing brother Monroe (a fanatically determined hunter) relate how he had looked down from his tree stand at a 6-pointer standing patiently nearby and had made a futile, frustrating attempt to see him through a water-logged scope.

When we stepped outside on Tuesday morning it was still snowing. We scattered in all directions, some to stands, others to the ridges, and the rest wherever inclination led them. I headed for a "great" tree stand, guided by Monroe, who had built it. Finally we stood under a towering pine. Far up in the crown, so high my flashlight beam barely reached it, was a platform. "You'll like it up there," he said. "Just take your sleeping bag up with you and

wrap it around yourself to keep warm. With that, he disappeared into the darkness on his way to an even "greater" location.

The tree branches were coated with ice. I could scarcely climb without my gear, much less *with* a pack, rifle, and sleeping bag. The branches were too thick to use a rope hoist, so after working up a good sweat in an hour's attempt to get myself and everything else up to the platform, I gave up in disgust. "Never shot a buck from a tree stand anyhow," I mumbled as I headed back to the cabin to stash everything but my rifle.

It turned out to be a beautiful day. Snow clung to the bushes and trees in the best winter wonderland style. Visibility, however, was so limited that I saw only a few tails and many tracks. I even walked up on three wild turkeys, much to our mutual shock and astonishment.

Two days later, on Thursday, I finally was able to go to the Perry County farm that our church's annual conference had purchased to make a new summer campsite. A friendly neighbor told me that at least four nice bucks had been

IT WAS A beautiful day. Snow clung to the trees in winter wonderland style. I even walked up on three wild turkeys, much to our mutual shock and astonishment.



shot off our ridge the first day. I fervently wished I had followed my original hunch instead of being influenced by my buddies.

Since it was already well past noon, I knew I had time for only one trip to the edge of the ridge and back. After this hunt I settled down under a big pine to rest, with only about thirty minutes of shooting time left. Soon I heard a single deer coming in my direction along the ridge line. It was a buck with a larger than average rack. He stopped behind some closely grouped saplings about 60 yards away. It was such an easy shot I didn't even lean up against the tree to get a steady aim. Bang! He never moved. Bang! This time he moved, but horizontally and not vertically as I had anticipated. Back over the ridge he went. Shaken and chagrined, I followed in the direction he had gone until dark, then reluctantly left for home.

I learned later that the buck traveled more than a mile up the valley and was dropped by a lucky hunter just before dark. He was a beautiful 10-pointer.

It wasn't especially cold Friday, but for some reason I decided to eat lunch while sitting in my car. I drove from the north side of the ridge where we had been hunting to the south side which was sunnier. Just as I was parking the car a doe bounded across the open field to my left, crossed the road, paused at the edge of the woods to look back, then disappeared. I thought her behavior a bit unusual, but settled back for a leisurely lunch with all the doors shut, the windows closed and my unloaded rifle on the back seat.

I was only a couple of bites into my sandwich when I sensed movement to my left. Turning my head casually, I saw that the cartoons and jokes I had often laughed at were about to become only too real for me. Trotting slowly across the wheatfield on the trail of his girlfriend was a 6-point buck. When he crossed the road not more than fifty feet in front of my car, he stopped and looked straight at me with what I swear was a twinkle in his eye. Then he bounded into the woods to continue his adventure.

Talk about frustration! By the time I got myself and a loaded rifle into the

woods he was out of sight, so I sat on a stump and felt sorry for myself. Yet I knew I had only myself to blame for foolishly lounging in a warm car after the running doe had practically handed me a written note that something was behind her. The thought occurred to me that I should give up on bucks for that season and wait to fill my antlerless license. An hour later I so informed my wife. She just laughed.

I was able to maintain this resolve until Thursday of the second week, when a minister friend asked me to take him out. He was new to the area and didn't know any good spots. It didn't take much coaxing to make me forget that I was going to forget about bucks. My wife was not surprised when I told her we were going to the State Game Lands in Dauphin County where I had shot my very first buck, a nice 8-point.

Huffed and Puffed

We arrived at our parking spot as dawn was breaking. I told my friend he could hunt on the mountain or in the valley, but that I was climbing to the top of the ridge. He chose the flat terrain so I huffed and puffed my way to the top alone. My plan was to walk the ridge from east to west, spending some time at my favorite spot overlooking a level area where my first buck and I had gotten acquainted.

A short distance into the laurel I spooked five or six deer but they moved out too far ahead for me to get a good look at them. After waiting about fifteen minutes I started to move again and jumped them the second time, but still couldn't see if any had antlers.

I sat down to rest at my favorite spot, glanced at my watch, and saw that it was almost 10 o'clock. Time for brunch. Digging a sandwich and small thermos of hot tea out of my pocket, I carefully propped my rifle within easy reach. My face still got red every time I thought about my luncheon guest in Perry County. "Never again!" I muttered.

The sandwich was consumed without interruption. I really didn't expect anything exciting just then, for I hadn't seen or heard any other hunters on the ridge. I figured the deer had bedded down somewhere up ahead and would

stay put until I got up there myself.

I figured wrong, for just as I began to pour my first cup of tea I heard a single deer running at top speed through the dry leaves. A few seconds later I saw the brown shadow racing down a slight slope from the west toward the level area below me, headed directly for the spot where I was sitting. I spied the forks jutting above his ears when he was halfway across the level area and 75 yards distant. Dropping the thermos and half-filled cup into my lap, I grabbed the rifle, flicked off the safety, and pointed it in the general direction of the fast approaching deer. (Sitting in an awkward position with hot tea running where it shouldn't, it really wouldn't be correct to say I "aimed" the gun.) The buck never saw me until he was scarcely a dozen steps in front of me, coming up the side of the bench. At that range and speed all I saw through the small round iron-sight aperture was a brown blob.

Just as I was about to squeeze the trigger he saw me and turned a sharp right angle to get away. Swinging the gun just slightly in the same direction, I sent a 170-grain slug to do its job. The buck dropped in his tracks and never moved. When I finally got to my feet and stood looking down at him, I could see why. My bullet had passed right through the center of a small dead

sapling, apparently expanding some what before striking him in the neck. After all that had happened previously I could only marvel at this bit of incredible luck.

As I began field-dressing the deer occurred to me that a prediction I had made to my wife the previous week had been fulfilled. I had said to her, "You just wait and see. If I do get a buck this year, it will be high on a ridge, far from the road, and I'll half kill myself dressing it out."

It took me three-and-a-half hours to get the buck into the trunk of my car. I can assure you that by the time I had tucked him in, we resembled each other in a remarkable and ridiculous way. My tongue was hanging out—just like his!

Epilogue: Because some of my friends were rather skeptical of my story, I later persuaded them to hike to the top of the ridge for an on-the-spot reconstruction of the event. I took a sapling along and brought back the severed sapling. A small section is now mounted on a plaque, along with some 8mm cartridges. Burglars stole my favorite rifle when they broke into our home some time later, but I still have the plaque and vivid memories of my season which no one can ever take away.

GAME NEWS Cover Prints Available

In answer to numerous requests, we can now supply a selection of GAME NEWS covers in a size and format suitable for framing. A set of four covers, all by internationally-acclaimed wildlife artist Ned Smith, now is available. These are full-color prints, enlarged to 9x12 inches on 11x14 heavy, coated paper, without the GAME NEWS logo. The set includes Ned's woodcock from the April 1974 issue; the woodchuck from July 1974; the doves from September 1972, and the buck and doe from the December 1971 issue. These prints are not available individually. The price is \$3 per set, delivered. Make check or money order payable to Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120.



Rites of Initiation

By Tony Capitano

WHEN I THINK about the boy standing beside me, I get a strange feeling. He's twelve, waiting to kill his first buck, and he's my son. It seems just yesterday he was a toddler and I marvel at how the years have passed so quickly. After having hunted alone for so many years, it's hard to adjust to his presence. I want every-

thing to be good for him, to go as smoothly as possible, to be as safe as possible. Even if he doesn't see a deer or even if he misses, I want to share in his first day.

I've taken him to a thick jumble of second growth in the middle of a mountain. I've hunted it for years and almost every first day I've gotten a buck or at

least seen one. Today I hope the luck will be here still, though I will be only a spectator.

We've come in to post in the dark and after finding the spot and clearing some snow and leaves away, we ready ourselves.

We're not there long before I see him fidgeting. I tell him to be quiet, to stay still. He sees the slight irritation on my face. It makes me think of all the other times I've said, "Be quiet" to him or to David and Chris, his younger brothers. I've had them all in the woods before whenever possible, watching, looking, trying to teach them what I could. And like all fathers, I've enjoyed it even if sometimes it seemed otherwise.

I tell him to face one direction while I look in the other. I feel confident we will see deer. I even feel confident he will see a buck and at least shoot. I hope for his sake he shoots straight. I've told him he may get an easy shot at a standing deer or he may see a buck running so fast he'll probably have no chance at all. Regardless of what happens, I've told him to be a good sport in camp and endure whatever teasing anyone dishes out to him. I've reminded him that some of our gang have yet to kill a buck and others have gone many years without one. I've tried to make him confident but not cocksure and to prepare him for whatever happens.

Gun Goes Up

We haven't been on post long when I see a deer move just ahead of me. It is standing behind trees and I can't tell what it is. I bump him on the back and motion slowly toward it. He doesn't see it at first. Then his gun goes up, the barrel slightly ahead of me and near my shoulder and as I see the gun pointing I wince, thinking if he shoots the blast will do wonders for my already advancing deafness. I cringe as I think of yet one more thing fathers endure for their sons.

He fires and I see the buck run to our right. In the excitement I forget my resolve not to shoot; I follow the buck and fire. In the next few moments I fire once more and my son three times. The buck runs 40 or 50 yards and falls. I am

not positive my son has killed the buck outright, but somehow I feel my shot were misses. I have told him many times he would get a deer. Seeing the buck lying there, I start laughing and cannot stop. It is a happy laugh, happy for my son, happy that everything has gone so well, happy that what I have believed would happen, has happened.

Only First Shot Hit

We run to the buck. His rack has 3 points, even though one antler is broken and has only 2 points on it. I tell my son we have to check to see how many times the buck was hit. I find only one bullet hole, and backtracking I find a blood trail starting from where the buck was first shot at. I explain it all to the boy. I want him to know that only the first shot hit the buck and all other shots were misses. I tell him if I had hit it the first time I would not lie and we would have shared the kill. I wonder why I even shot at all and realize it must have been instinct. For once I am completely happy to have missed.

We admire the buck awhile, and then I take some pictures. As I look at the boy in front of me, I get that strange feeling again as I realize he is my son growing into manhood. I tell him how to clean and dress the buck, and though he starts the job, he has trouble and I finish while he makes out his tag.

His good luck has given me a high. His kill has been my kill and as I sit there with his buck eating a sandwich I begin to relax. Somehow the edge is off everything. When I see a deer coming down along the creek, instead of scoping quickly to see what it is I bump my son in the ribs to look and continue watching without raising my gun. I don't see the small rack until the buck is past and then I have time for only one shot and miss.

When I look at my son he only says, "Gee, Dad, it wasn't going that fast."

I laugh. Oh, how I laugh. How beautiful.

"Now you've seen how easy it is to get one and how easy it is to miss, all one day," I tell him. "Besides," I add "besides . . ." and I start laughing again.

I have moments later when I regret

missing and chide myself for being careless and think how nice it would have been for both father and son to kill their bucks on the first day. And then I think that might have been too perfect, too easy, and ruined it all somehow.

At camp he is congratulated. It is his day. Even though I go home that night, I let him stay another day to be able to look at his buck hanging on the meat pole, to be able to spend a free day in camp sleeping late and sitting by the fire and dreaming. Good memories at such an age are strong and vivid.

Later on in the week, after someone had mentioned the antler break looked fishy, I return to where he killed the buck. Luck is with me. I find the rest of

the antler, the pieces fitting perfectly, making his rack a nice 8-pointer. Evidence suggests a shot hit and broke the horn.

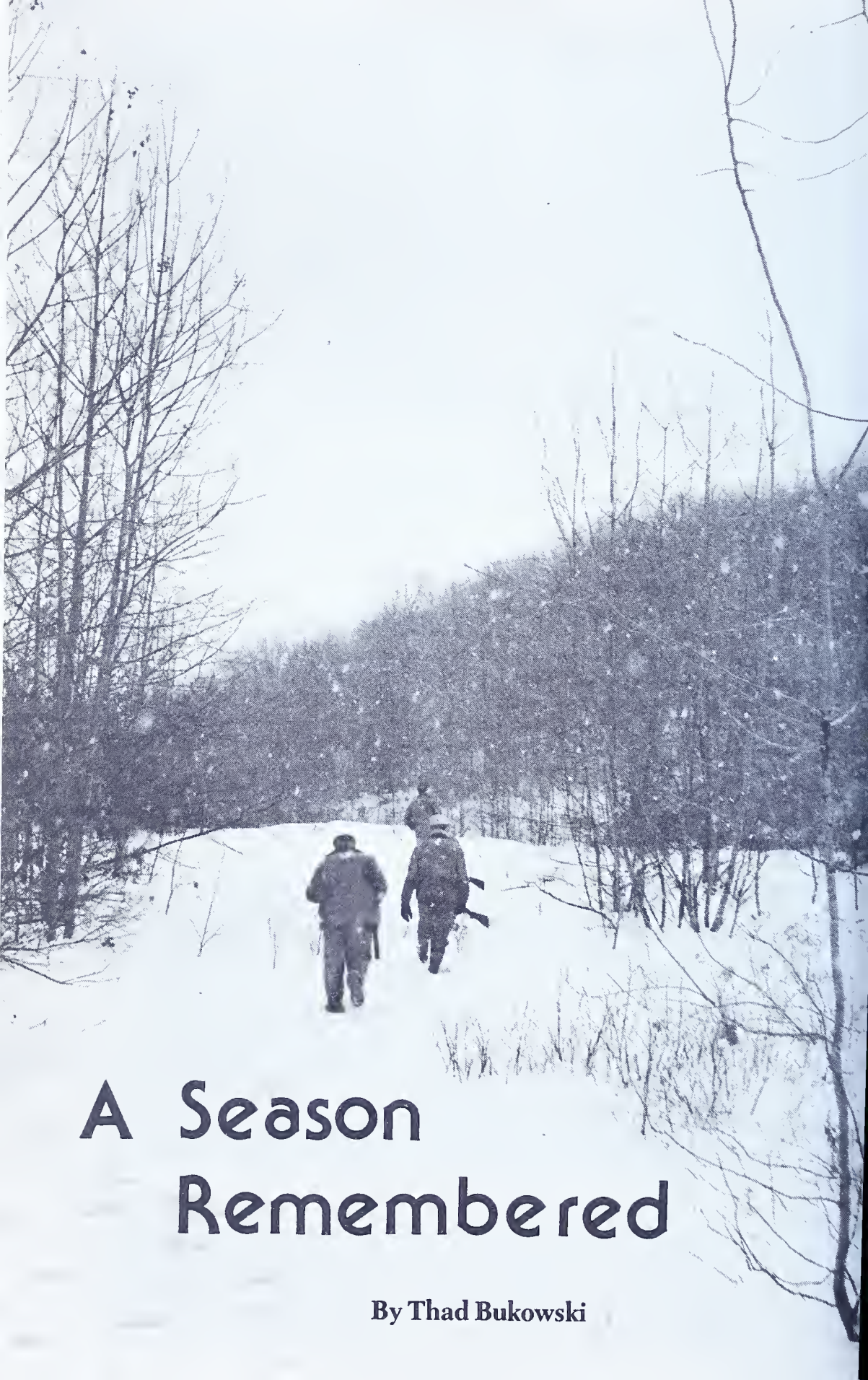
My season is over. I hunt a few more days and see only one spike for a few seconds and have no real chance. If I want a buck I'll have to wait another year. No matter. I think about the season and know I've made another good memory for myself and one for my son that he should carry with him for the rest of his life.

As my thoughts wander to the coming season and my second son David, I wonder what father's pains I will endure for him. Whatever—I know it will be worth it.

Days of Yore



THE MODOC ROD AND GUN CLUB, located on Stone Creek in Huntingdon County, had a fine season back in 1921, as shown in this photograph submitted by John P. Lonberger of Sun City, Arizona. Six big bucks and a nice bear weigh down the game pole, and several raccoons and a skunk finish out the bag. In front row, from left, are Will Wagner, Day Myers, Harry Bley, Sam Hess, Al Lyle, G. W. Shaefer and Mr. Bloom. Standing are Charley Faxon, Baker Kubs, John Hess, John Mokle, Robert Bailey, Mr. Thompson, Jared Mayes and Frank Bailey.



A Season Remembered

By Thad Bukowski

JUST FIFTEEN MINUTES after dawn lightly cleared the sky, a shot rang out not fifty feet in front of me. I saw two deer race up the hill to my side but I couldn't make out antlers. I grabbed at my 760 Remington carbine as I peered, squinting a moment at the disappearing tails, and then looking intently for others. But none followed and I rechecked my 30-06, slung it over my shoulder again, and started up the trail once more.

I was heading up Bob's Creek in Berlin Hollow, north of Route 666 in the Allegheny National Forest, when all the commotion startled me. It was the first morning of the buck season. Not far beyond I stopped again.

"He almost ran over me," called John Oleksa of Lorraine, Ohio, after I had made no more than fifty steps with each noepac silently dropping into seven inches of fresh snow. Oleksa knelt over a 3-pointer and that's where the shot I'd heard a minute earlier had hit home. It was a fine deer, belying the small rack, and perhaps I would have finished my hunt just then in the same way if John had not been there. But it was too early in the season to have it end, I thought. And as it turned out, I was able to plan yet another different hunt, and another, and another.

It made for a fine season remembered the past year. My boss and friend Bill Salzman also fretted terribly the next week all the time I roamed on succeeding hunts. He, too, had downed a buck, a 4-pointer, on the first day, back in a valley near Edinburg along the Ohio border where he had previously downed a buck 28 years back.

"I'm not going to shoot on the first day any more, unless I see a 10-pointer," he ruefully told everyone around him. "Look at the fun I've missed. I had my sights set on the muzzleloader season and I can't even hunt the rest of the buck season. You guys are having all the fun."

For sympathy he turned alternately to me, to Stan Pru, and to Bernie Stack. All he got was big grins as we gulped coffee at our morning breaks.

"You can play dog for us," Stan offered, grinning broadly.

Bill just grunted.

We all swapped hunting tales over coffee as the season progressed. Every new venture into the woods and its parallel enjoyments had Bill fretting a bit more.

"Maybe you should have done like Stan did," I reminded Bill. On the first day, Stan's three shots early in the morning missed cleanly, then he watched as another hunter dragged the 6-pointer through the next hollow. His feeling of anguish was allayed when he saw a 4-pointer in the afternoon, but he missed again, sending a couple more ineffective bangs at the disappearing buck.

Zero Okay

Friend Bill had immediately got helpful and tried to ease his personal upsets by checking the zero of Stan's rifle. It was right on target.

"You'll probably have a triple trophy in reverse," Bill chided. "You've already missed a gobbler in turkey season and you'll probably miss in the muzzleloader season, too."

Stan only grinned. "I'll just keep on hunting," he said.

Then Bill got helpful again. "It's probably because you had so many clothes on that first day," he explained. "Your stock fits differently with all those duds on, and that's where your trouble might be."

Stan nodded and ventured he might shed a sweater on the next hunt. But he wasn't particularly concerned. He was looking forward not only to the next hunt but possibly the muzzleloader season that was to follow. He even hinted he'd like to borrow Bill's 50-caliber Hawken if he didn't have his buck by then.

The suggestion almost irritated Bill. "I'd give anything if I could go out with a muzzleloader," he moaned, grouching over his coffee breaks. "That season makes me feel like a true frontiersman. Last year, I learned to like it better than anything I've done in the woods yet." The year before, Bill, Stan and Bernie had a great time roaming Game Lands 39, near Franklin. The highlight of that week occurred when two of them met in the snow one day as both were trailing the same deer, then ar-

gued as to who was going in the right direction.

"That snow was so deep, I guess we couldn't tell," Bernie finally confessed.

Stan's shooting prowess had been tested in a different way the previous year. His flintlock failed to fire when a deer broadsided him.

"You might have been sensational, but we'll never know," Bernie egged.

"Had as much fun unloading those guns at the end of each day, too," Bill added. "Those old-timers we met out there were different, too. Remember that gent with the Kentucky rifle," he enthused.

But we get ahead of our story. There were at least three Saturdays before the buck opener to spot good racks during the turkey season. On the first we were near Brookston on the north side of Bluejay Creek on the eastern side of the huge Allegheny National Forest. We saw a dandy 6-pointer.

Yet, after three turkey hunts, I headed back to my usual stand for opening morning, even after all the scouting. It was some two miles into the center of a triangle where Balltown Trail and Camp Nine meet in the middle of the forest north of Mayburg. I got there after I ran onto Oleksa. I painfully recalled that both he and I had also missed an 8-pointer there a year before. Bernie headed for Tionesta Tower on the eastern hill of the Allegheny River just north of the Venango County line, a spot he liked particularly, while Stan was in the Oil City area making his

first-day misses. I came back to the Mayburg spot since a mutual hunting companion, Ray Bales, said a fine 8-pointer was roaming that section of the woods. But I spent much of the day nearly a half mile from my usual stand after I left Oleksa and his 3-pointer. My jeep was parked mid-forest, right at the crossing I usually watched. It effectively kept the deer away, as no single one came along the bench that I usually followed below a hill there. By day's end I had seen fifteen moving elsewhere, considerably less than other years, and not a single one sported horns.

Not An Easy Job

When I climbed out of the woods just before dark, Ray's younger brother Jeff on leave from the Navy, had the 8-pointer hanging near the outer road. But he'd had an unexpected problem with it. He had loaned his knife to a companion earlier, and they were at a rendezvous, but his friend never showed. Jeff was finally forced to gut the buck with the pin of his license holder—not an easy job! I met him shortly after he had pulled the big buck out of the woods.

I headed south at the end of the day to the Oil City area, where Stan told me of the two deer he had missed that day. He was camped with four others and already anticipating the second day of the hunt. His group included Paul Verne and his two teenage sons, Frank and young Paul, and Paul Miller, as fine



AFTER missing two bucks the first day, Stan Pru, left, is eager to go hunting again. **RIGHT**, John Oleksa, Lorraine, Ohio, and the 3-pointer he dropped just ahead of author. Bernie Stack, far right, fills his license during the muzzleloading season.

chap as I've hunted with in a long time. Miller, who lives in the area, first took us to Cranberry Township near Fryburg the following morning. He had got wind that twenty bucks had been pulled out of there the day before. But I saw only four deer as I pushed them out of some deep brush and deadfalls on that second morning. A raft of second-day hunters were posted and the deer also remained in hiding after the opening day's commotion. I wondered as I usually do, after seeing a dozen hunters watchfully waiting in strategic places, why almost no one ever organizes a deer drive anymore.

On the second afternoon, Miller took us to a flat above Oil Creek State Park, a spot I wanted to investigate and which Stan had previously suggested might be hunted. It was called Russell's Corners, and even as we approached it, Jack Chinile of Aliquippa proudly pulled a fine 7-pointer to the road. A half dozen hunters stood by and admired the buck, one that most of them had also moved during the day.

I had obtained a pre-printed quad section of the Russell's Corners area after Stan talked about the spot at one of our coffee klatches, so when we headed into the woods a couple of miles down the road past the Enos farmstead, I didn't feel strange about going into the woods there.

Young Frank and I quickly jumped a pike, and when we heard a shot we thought it was Stan, pumping again, as the buck went in his direction. But the

shot was from a different hunter who was on watch farther on. He missed the spike cleanly.

"I've been posted here most of the day and was just asleep at the trigger," he said when we got to him. "The buck was almost past me before I noticed it, and I got the shot off as he was disappearing. I've seen seventeen does today," he added.

We chatted for a while and then I pulled out my map and began studying it. Young Frank became quite interested.

"See this valley," I pointed to the map, "I'm going to take the bench below the hill here on the right and stay inside this jeep trail above it, heading west and then south. If you go due south for a half mile or a bit more, you'll hit the head of this draw as I work up it," I pointed out.

"How do you know the lay of the land when we haven't been here before?" Frank asked, intrigued. He admitted never having seen a topo map before, and I began to familiarize him with the section I had.

"It's pretty easy." I pointed to the map again. "See these numbers along these lines. They're bench marks and tell you, really, if you're going to travel up or down hill or on the level, and you can plan your hunt even though you haven't been here before. That is, if you have a compass. In fact," I added,



pulling mine out, "Let's take a reading and see what happens." Frank obliged and coordinated with me and headed in the direction we talked about.

I ran onto Frank again in less than an hour.

"Boy, this is going to be my post first day next year," he said excitedly. He was at the head of the draw we had talked about, sitting in the crotch of a huge, tumbled oak that leaned into the hollow. His spot overlooked an inviting valley fork that broke off into two upper benches with a good view each way. Deer tracks milled in confusion in every direction in the snow below him.

"Didn't I push one to you?" I asked, and he shook his head. We separated shortly and I followed some fresh tracks in the snow, but they brought me nothing. I took another compass reading and surprised myself by getting out as close to the car as I've done in a couple of years.

The following morning I saw a lot of deer sign in a two-hour roaming hunt not far from this Venango County spot south of Pleasantville, but I didn't see a deer. I met two old-timers during the day and the first was posted comfortably, hoping to see a 12-pointer he'd spotted three days before the season opened.

"Nobody's reported getting him yet, so I've still got a chance," he said optimistically. "They've dragged three 6-pointers out of here, a 4-pointer and two spikes, but not that big one," he added.

Great Deer Tales

It's great to stop and chat with old-timers when you bump into them in the woods, I thought as I moved on. If they don't give you some great deer tales of bygone days, they give you plenty of the region's history if you know how to open your ears and sit a spell on a nearby stump. The other gent, Frank Lutz, told me more about the Oil Creek countryside and the old oil boom there than I ever expected to learn. We swapped a few further tales from the past few days, then I came out of the timber, still looking for my buck but chuckling.

The buck season ended without a

shot from me but there was still time for muzzleloader season to consider. Between times, we got out a couple of Hawkens and drilled maxiballs at some targets. The Hawkens were accurate 60 yards and we all felt we shot well enough to down deer. The gun loading, however, was laughably slow and ritualistic.

"We sure would have all been dead if the Indians were coming," I ventured, while shoving a ball down the barrel.

Hood Up

The first Saturday of the muzzleloader hunt Stan and Bernie and I were purring along Route 80 toward Barkeyville in Bernie's three-quarter-ton pickup, headed for Game Lands 3. Ahead, a car's hood was up at the side of the road, indicating trouble. Bernie, always a samaritan and a good mechanic, began to slow down.

"We ought to help," he said. Four nuns were in the car. They were quite cold as they had been sitting in the disabled vehicle for some time.

Bernie listened while they tried to start the engine. Everything rattled.

"Stop it," he called. "It's the water pump." He offered to push the car two miles up the road to the Grove City repair shop.

The nuns were overjoyed. "We'll pray for you to catch a deer," they told him when they learned our deer hunt had been delayed to give help.

"You guys don't know what happened to me three years ago," Bernie confided when our pickup was on the road again. "I stopped for a disabled car another time, and would you believe it had nuns in it, too. It was the last Saturday of the regular buck season, one o'clock in the afternoon, and I hadn't had a chance to hunt once during the whole season. Anyway, after I got their car going I stepped into the woods, and there was a big beautiful buck looking at me, an 8-pointer. The nuns had told me they were going to pray for me to get a deer that day too, and I sure got a real one."

"We'll certainly believe in prayer if you get one today," Stan said, looking heavenward.



AFTER HIS BUCK IS DOWN, hunter takes a few minutes to absorb the beauty of the woods—something to help him through the rest of the winter.

The pickup bumped off I-80 at Barryville and headed north on old Route 1, where the road split the Game Lands towards Franklin. Halfway, near the Sandy Creek bottoms, where the creek courses through the huge wooded land south of Pekin Hill, we headed into the woods.

Two excited hunters greeted us shortly. They had each missed deer.

"My gun didn't fire," one lamented, and twelve deer stood there right in front of me, looking at me not forty yards away.

"My pan flashed, but the gun didn't go off," said the other, "and I was looking at eight until the smoke rose." His voice showed frustration.

"Seems like a hot area," Stan said. He told us he was going around a hillside where a nice big stand of pines intermingled with the fine hillside oaks and maples of the huge Game Lands. I took another direction.

Bernie told us afterwards he noticed movement just after we had disappeared. He made out the slow stepping of a deer and picked a spot it might come through. It was a long ways off for a muzzleloader, a good 75 yards. The deer stopped as it browsed. Then it started its almost aimless walk again.

"I aimed nearly a foot high, right at the top of the shoulder," Bernie told us. "That danged gun makes a lot of smoke, but then I saw the deer had dropped.

"I was so excited, I didn't even notice I was trying to fill my cigarette lighter instead of the powder measure for another shot. By the time I saw what I was doing, I'd spilled half my powder on the snow. I just dumped some in the barrel, guessing at the right amount."

"You should have seen that second shot," Stan laughed. He had come on the scene when Bernie gave out with a war whoop. "It traveled twenty feet through the snow after it went through the deer and crunched a five-inch tree trunk."

"No matter. It's a nice button buck," Bernie said with satisfaction.

The following week Stan had startling news at the coffee break.

"Saw Bernie in church for the first time in a long time," he said. He turned to Bernie. "Didn't I?"

"That's right," Bernie said. "And just between us, I'd suggest that next season *you* spend the first day or two driving around in deer country, trying to find some nuns with car trouble. The way you shoot, you could use some help too!"



MOST VENISON FINDS ITS WAY to the table of the hunter's family, but far too many times that of the slob hunter winds up on a dump, wasted.

Beyond the Hanging Tree

By Dave Wolf

THE HANGING TREE consists of anything from a sturdy limb to an elaborate frame of freshly painted wood. It serves a two-fold purpose to the hunter. Number one, it allows the blood to drain freely from his deer's carcass, at the same time keeping it out of reach of a canine predator. And number two, it allows others to witness the result of his hunting endeavor.

It is a ritual for hunters, in northcentral Pennsylvania particularly, to make their rounds the evening of the first day of deer season, in search of hanging trees. These show the success of others and what size racks are being taken.

But few give thought to what transpires beyond the hanging tree. In other words, what happens to the carcass, once removed?

Of course, most venison finds its way to the hunter's table, and perhaps the head is sent to the local taxidermist to

become a permanent addition to trophy room. This is as it should be, no food is more satisfying than sav venison in its various forms, and a w mounted head is a memory refresh focal point for entrancing your frier as you reminisce about your hunt.

Unfortunately, the slob hunter a kills some deer. And where does tasty venison end up? As chops, ste or deerburgers? Sadly, it does not. too many times it goes to waste o local dump. Instead of becoming a ta meal, it serves as a tool for the a hunter to sink his teeth into.

To verify this, I recently received letter from an infuriated anti-hunt claiming that 800 deer carcasses w found on one dump in Buffalo last ye I doubt that this number was corre but there obviously was a problem. A this is not New York's problem alo Numerous deer were wasted in Pe sylvania last year.

We, as sportsmen, cannot allow this to continue. The black eye given by this type of individual will leave a lasting scar to be worn by all of us. I want to be proud of my sport and the individuals who participate in it. I do not in any way want to be grouped with individuals who are undermining our endeavors. I look for the day that I may declare to the anti-hunter that this could never take place among the ranks of the Pennsylvania hunting fraternity.

But for the moment, you and I must bear the criticism and hang our heads in shame for the handful among us who do not take pride in our sport—those who care nothing for the future of our sport. Like the thief in the night who steals what another has worked so hard to obtain, the undesirable among us are stealing our rights. It's a sad thing to contemplate.

For those of us who enjoy autumn's golden days afield, those days which are more important to us than the amount of game accumulated, our favorite guns create a source of pride for us. They are often special guns which

we intend to hand down to our children and, hopefully, they will go in turn to our grandchildren. We are the keepers of our sport, a heritage that we have received and one that we are given the responsibility of retaining and helping to flourish.

Are we up to the task? At no other time in the history of man has the hunter been subjected to so much abuse. Can we allow this attitude to spread within our society? Will hunting be so defamed by the time we pass this heritage on to our grandchildren that it will be unable to exist?

The Game Commission has handed us sportsmen the ball by initiating the SPORT program. Now we must carry it as they coach from the sidelines. If we fumble too many times, we will lose.

As it is necessary to weed our gardens, we must do the same among our ranks. When we accomplish this goal, we can once again be proud of our endeavors. No longer will we be forced constantly onto the defensive, no longer will we be condemned for the misdeeds of the few.

Scoring Program To Be Held in 1979

The seventh Big Game Scoring Program will be held by the Pennsylvania Game Commission during the spring of 1979. Precise times and locations will be announced. This reminder is published so that successful deer hunters will remember to preserve their trophies and have them measured during the upcoming sessions.

The Game Commission's measuring program, which scores trophies taken legitimately in Pennsylvania, was begun in 1965 and held most recently in 1976. Trophies are scored according to a system developed by the Boone and Crockett Club. This system takes into account both the size and symmetry of antlers; thus it permits an objective ranking of different individuals of a species.

Although there has been no bear season in Pennsylvania since 1976, skulls of bears taken that year, or in previous years when there was an open season, will be scored.

Cookbook On Its Way

The wild game cookbook of recipes submitted by GAME NEWS readers should be available before January 1979. It will be 96 pages long and contain information on preparing all species of game birds and animals which can be hunted in Pennsylvania. Orders may be sent to the Pennsylvania Game Commission, P.O. Box 1567, Harrisburg, Pa. 17120. The price per copy, including postage and sales tax, is \$2.50.

**Merry
Christmas**





Photo by Joe Osman

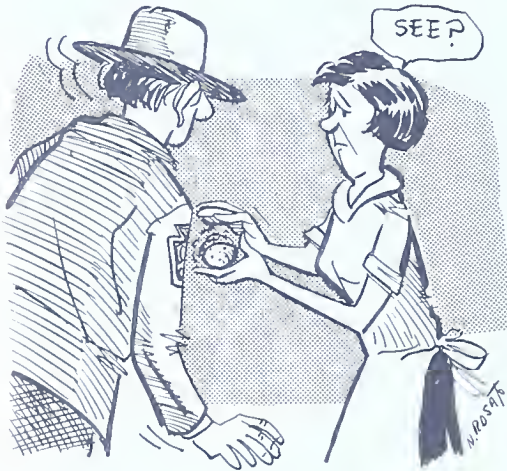


FIELD NOTES



Protector of Game

MONROE COUNTY—During our recent exhibit at the West End Fair in Gilbert, as the large crowd moved through the fairgrounds, a cottontail rabbit dashed among the people, right through our exhibit area, and was last seen heading toward my Game Commission vehicle parked nearby. It seemed as though he needed protection from the crowd and knew where to go, even though he didn't stay long.—DGP D. E. Overcash, E. Stroudsburg.



Scared Eggs?

BUTLER COUNTY—A local woman was having difficulty with something eating her ducks. The culprit, a great horned owl, was removed from the area. Not an unusual complaint, and yet part of my ensuing conversation with the woman left me scratching my head. She commented that not only did the owl kill the mother duck, but also frightened the eggs, and in her opinion, the Game Commission should be liable to pay damages. Now, if the PGC could be held liable (which it couldn't) it shouldn't be too difficult to determine the value of the hen duck, but for the frightened eggs, we might need the services of a sharp big-city lawyer.—DGP Ned Weston, Boyers.

Fatal Solution

MONTGOMERY COUNTY—I recently rescued a barn owl that had been hanging from the limb of a small tree by one foot. But my rescue was shortlived for it soon fell into convulsions and died. My guess is that it ate a poisoned rodent. It has been my unfortunate experience that people often turn to poison to solve their "animal problems." When will they learn that many poisons keep on killing indiscriminately? How ironic that one of the world's best mousers was killed because man, once again, thought he had a better mousetrap.—DGP William Wasserman, Lansdale.

Deer, 1; Book, 0

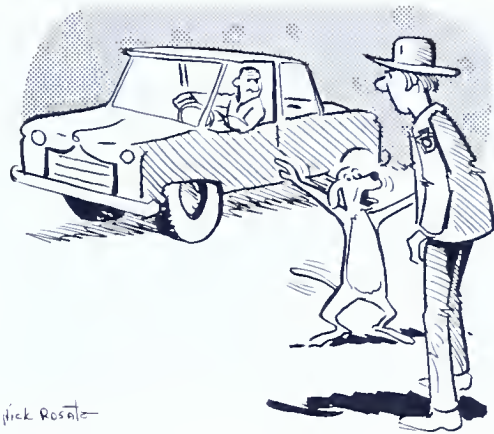
FRANKLIN COUNTY—We often hear about deer being hit by motor vehicles and coming out on the losing end. This summer we had a deer come out on top in a similar situation. Thaddeus Book of Doylestown was driving his tractor along his cornfield when a big doe came charging out of the corn. Thaddeus and the deer probably saw each other at the same time; the deer jumped and missed the tractor but collided with Mr. Book, knocking him clear off his tractor. After the surprise wore off, Mr. Book had a good laugh over it. Man and his machines don't win all the battles with wildlife.—DGP Frank Clark, Chambersburg.

Blacklisted

DAUPHIN COUNTY—During the last hunting season a factory in my district used one of our SPORT posters to keep a list of the employees who were arrested during the season. A word to the wise: don't be a slob hunter or you get your name on the "SPORT List."—DGP Gary W. Packard, Millersburg.

Both Sides

SOUTHEAST DIVISION OFFICE—Recently I was asked to present a program on the environment to an elementary class. The students were attentive and interested, but what impressed me most was their teacher's attitude. He felt the students received enough exposure to anti-hunting groups and should hear the other side of the coin from the Game Commission. I hope we have many more equal time opportunities like this one.—DGP Gary W. Smith, Kempton.



Nick Rosati

Better Sniffer

ARMSTRONG COUNTY—I recently read in a Rochester, N.Y., newspaper that the wildlife conservation agency in that state was experimenting with the use of dogs to determine the presence of game in vehicles, containers, etc. Apparently the Canadian Mounted Police gave New York the idea. The Mounties claim that on road checks, these dogs can swiftly check thirty cars in the same time that it takes an officer to search one car. The officer has to methodically check every compartment for game or parts of game, while the dog is simply paraded around the outside of the vehicle for a quick sniff.—DGP Al Scott, Rural Valley.

Why Not Try It?

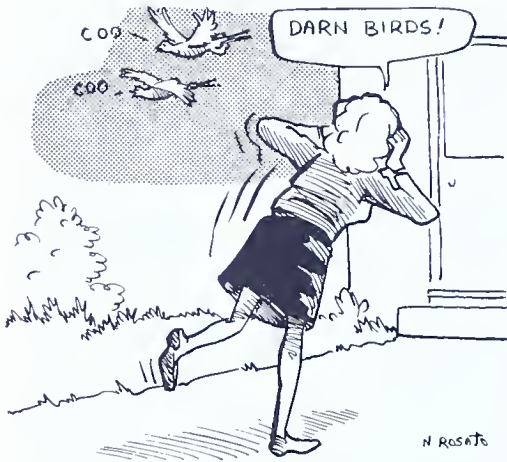
CLARION COUNTY—In August the Clarion Chapter of the Pennsylvania Farmers Association hosted a hot dog and corn roast for the Clarion County Federation of Sportsmen's Clubs members and families. The sportsmen were treated to an abundance of good food and excellent speakers including Terry Eder, wildlife specialist from Penn State's Department of Agriculture; David Wright, state representative; and David Zacherl, Clarion County Democratic chairman. The sportsmen got a chance to discuss things firsthand with farmers. Wildlife damage to farm crops, rather than hunter behavior, seemed to be the main problem concerning landowners. I believe sportsmen in Clarion can now better appreciate the problems of the farmer, and I hope this cooperation and discussion will continue in this county, and spread to other counties.—DGP Gordon J. Couillard, Clarion.

Never Underestimate . . .

BEDFORD COUNTY—Recently I received information that a young girl and boy had seen a person shoot a duck on the river near Everett. When I went to their home and asked for them, a girl of about nine said, "I'm the one who saw it." Since most of my dealings are with adults who see "big white," or "small dark" cars, and out-of-state plates, I at once lost all hope of finding out who had shot the duck. But before I could ask any questions, the girl raised her forearm and read off the registration number she had written on her arm. Between the girl and the boy, I had a correct license number and an accurate description of the vehicle. The violator was successfully prosecuted.—DGP Tom Barney, Everett.

Yes, We Really Are

NORTHWEST DIVISION OFFICE—To my friends who don't really believe that I am a district game protector, since I'm not listed in the back of the 1978-79 Digest of Hunting and Trapping Regulations, maybe this Field Note will convince you! P.S. Nine other officers are not listed either because we were assigned to Division Offices rather than specific districts.—DGP William C. Wingo, Franklin.



Knock Off the Mourning

LANCASTER COUNTY—Recently a woman called and told me she was very upset because of a problem she was having with wildlife. Expecting the usual groundhog or rabbit-in-the-garden complaint, I asked her what I could do to help. She said I could come to her home and poison all the mourning doves. She told me she couldn't stand the noise they make when they coo. I informed her that I would not poison the doves, that they are protected by law, and that she should be glad to hear a wild bird around her home. The woman was not happy with my answer and told me that she was going to move where there were no birds. It's not bad enough that more and more habitat for wildlife is being destroyed each year; now the animals are expected to be mute when they pass through a housing development.—DGP John A. Shutter, Jr., Lancaster.



How About Anchovies?

LYCOMING COUNTY—It's a well known fact that bears, opportunists that they are, will feed on just about anything that's even close to what humans would consider edible. Just about. A local man was picking blueberries on State Game Lands 134 in Cabbage Hollow this August. He brought along sandwiches: one chicken and one limburger cheese. He left his lunch on top of a pail of freshly picked berries and then proceeded through the patch, picking a second pail full. Later, as he was working his way back, he found a bear sitting with the pail between his legs. The bear pulled out the limburger sandwich, sniffed it and promptly tossed it aside. He then proceeded to eat the chicken sandwich and the man's hard earned blueberries.—DGP Bill Hutson, Muncy.

The Name Game

NORTHCENTRAL DIVISION OFFICE—Did you ever wonder what certain landmarks received the names? I had the opportunity to learn about one place firsthand. While patrolling State Game Lands 75, I spotted a large black bear walking near a small stream. When the bear noticed me, it took off running. I looked at the topographic map to find my location and the name of the small stream. Sure enough I was at Bear Run.—DGP Dennis Dusza, Jersey Shore.

Instant Family

DAUPHIN COUNTY—Deputy Dale Snyder tells me that while using a back-hoe this summer to uncover his well, his daughter Gert discovered a bird's nest built in the boom of the back-hoe. After they had quit digging, one of the baby birds fell out of the nest. His son George, knowing the machine would be on the job for several days, removed the nest and seven nestlings. He placed them in a wren's nest which had been built in a sheepskin wash mitt hanging on the clothesline, which already contained four eggs. In a few minutes a pair of very bewildered wrens began working feverishly to feed the new family. We hope the foster parents didn't blow their minds trying to figure how they suddenly became so prolific.—DGP Skip Littwin, Hummelstown.

Close Encounter of the Wrong Kind

MERCER COUNTY—Recently my wife and I attended our first Division picnic. One of the competitions for the wives was "Knock the head off the Game Protector." The object is to knock the head off of a dummy dressed in full PGC uniform, using a rolling pin. I had better watch my step in the future because my wife was the first to connect with a solid hit.—DGP James J. Bonatelli, Mercer.

Good Advice

NORTHWEST DIVISION OFFICE—I recently received a call from a very upset woman who stated that her daughter had handled a dead bat and was afraid of getting rabies. Although the chances that the bat had died of rabies are relatively slim, contracting the disease without being bitten would be even more rare; however, a sick wild animal (even dead) should never be handled. If a wild animal is approachable, something is amiss, and the best course of action is to back off and report it to the nearest game protector.—DGP Robert L. Lumadue, Franklin.

Why I Don't Believe In UFO Sightings!

LUZERNE COUNTY—From my experiences with some people who see mountain lions, bears and many other animals and birds they can't identify or are afraid of, too many of these persons have at first the wrong idea in mind—to shoot it, to destroy it, to kill it. UFOs? They would have been annihilated, to be sure.—DGP Theodore Vesloski, Wilkes-Barre.



Educated Bears

SOUTHWEST DIVISION OFFICE—Recently I had the privilege of working with Jack Giles, Game Commission bear biologist, other Game Commission personnel and Dr. Allen Woolf from the Rachelwood Research Center on a study of the peripheral range of the black bear in Pennsylvania. It's been fun and it's been educational. Educational especially for the bears, who have rapidly learned how to avoid the researchers.—DGP Charlie May, Latrobe.

Extra Hazard

FAYETTE COUNTY—Weeds and brush are excessive again this year due to the warm, wet summer. Hunters should make themselves aware of this and be extra sure of their target before they shoot.—DGP Donald R. Smith, Uniontown.

In My Spare Time

LUZERNE COUNTY—The other day, my wife received a phone call from a lady complaining about a woodchuck doing damage to her garden. After listening to the complaint, the lady asked my wife whether I do this kind of work for a hobby.—DGP Edward Gdosky, Dallas.



Rise to the Occasion

Food and Cover employee Dale Zimmerman has devised a novel way to avoid rattlesnake bites. Recently, Zimmerman and co-worker Bob Miller were checking bluebird nesting boxes to determine productivity. Since the boxes were placed eight to ten feet off the ground, Zimmerman took along a small stepladder. Miller remained at the truck parked nearby, sorting through equipment. Miller, being the perceptive individual that he is, stated that he instantly knew something had gone awry when he heard screams of panic echoing up and down the valley. He looked up, to see Zimmerman standing in the middle of the food plot on the very top of the stepladder, screaming "Snake!" for all he was worth. As Zimmerman relates it, Miller took his own sweet time getting to him to dispatch the large rattlesnake baying at the foot of the ladder. Moral: Either carry a stepladder to avoid rattlesnakes or carry a rattlesnake to tree Food and Cover employees.—LMO J. E. Schweitzer, Hummelstown.

Away From it All?

PERRY COUNTY—After hearing my wife lament, "Summer is gone and we never got to go anywhere," I gave in and took my family to Ocean City, Maryland. It felt great getting away from it all for a few days. As we were standing in the ocean taking it all in, we noticed a small boat traveling by with a large electronic billboard which lit up a few words at a time until this message was complete: "A business man—who takes his wife—to a convention—is like a hunter—who takes the game warden—on a hunting trip!" It took some tall explaining to convince my wife I wasn't responsible for that gag.—DGP Butch Camp, Ellittsburg.

Do They Care?

TIOGA COUNTY—When are some dog owners going to learn? By allowing their dogs to roam free, they take the chance not only of being fined, but also of having their dogs shot for pursuing or killing wildlife. If these owners care so little for their dogs, why do they have them in the first place?—DGP Steve Gehringer, Covington.

Easier to Pick Up

BUTLER COUNTY—As part of my report at County Council every month I always indicate the number of road killed deer in my district. I was amused to read the minutes from a recent meeting, where it was reported TOAD kill were running high.—DGP Larry Heade, Butler.

Latest Fashion

WESTMORELAND COUNTY—The fawn deer that were a part of the Game Commission exhibit at the Westmoreland County Fair are on loan from the Pennsylvania State University Cooperative Wildlife Research Unit. Both have yellow ear tags to identify them. Several little girls stopped to ask why the deer have barrettes in their ears.—DGP Barry K. Moore, Saltburg.

PGC Director to Head International Group

y Ted Godshall



Glenn L. Bowers
Executive Director
Pennsylvania Game Commission

GLENN L. BOWERS, executive director of the Pennsylvania Game Commission, has been elected president of the International Association of Fish and Wildlife Agencies.

The International Association is a voluntary association whose government members include the wildlife agencies of all 50 states, the four agencies of the U.S. government involved with fish and wildlife, and the wildlife agencies of the Dominion of Canada, six Canadian provinces, the Commonwealth of Puerto Rico and the Republic of Mexico. The International Association promotes rational management of fish and wildlife and coordinates efforts of public agencies responsible for protection and management of the fish and wildlife of North America.

Bowers, a native of York who has been executive director of the Game Commission since 1965, has been a member of the International Association since 1959. He was elected to the Executive Committee of the organization in 1971 and served as chairman of that committee in 1976. He previously served as chairman of the Resolutions Committee, was second vice president of the group in 1976-77, and last year served as first vice president of the organization.

Bowers received a B.S. degree in zoology and entomology from the Pennsylvania State University in 1946. He also earned an M.S. degree in wildlife management at Penn State in 1948. His undergraduate work was interrupted during World War II, when he served with the Marine Corps from 1942 through 1945. He was a fighter pilot and attained the rank of captain with the renowned Black Sheep Squadron of "Pappy" Boyington during combat operations in the South Pacific.

Bowers has been a Game Commission employee since 1948. He served as a game biologist and was chief of the division of research for two years before becoming deputy executive director of the agency in 1959.

A Job With Wildlife

By Toni Williams
GAME NEWS Staff Writer

MY JOB IS GREAT for someone who loves to read. All sorts of hunting, environmental and wildlife magazines cross my desk, plus a blizzard of news releases, memoranda, manuscripts, newspapers and miscellaneous publications, including the books Bob Bell and I read for review. Some of this goes into my column, "In the Wind," some gets filed or passed on, and some gets tucked into my brain. The last group includes an article I read recently in another state magazine, *North Dakota Outdoors*. "The Facts of Life" described what's ahead for young folks thinking of a career in wildlife.

We agreed on most things, but I thought they skipped a few areas, and felt our readers might be interested in information tailored for Pennsylvanians, including information on the Game Commission. If you're considering a career with wildlife, or know someone who is, there are some things you'll want to know. Several books and pamphlets will help; a few are listed at the end of this article. I'd like to supplement those with some information about recent trends and some "between the lines" stuff they don't tell you, from my own and my friends' experiences. We don't know everything, of course; I strongly suggest you talk to a wildlife biologist, game protector, artist or some other practicing wildlifer in the specialty you're considering—more than one, if possible.

THE WORK: WHAT IT'S LIKE

First, a word of warning. Wildlife work is often not what aspiring wildlifers expect. If you're considering the field because you think animals are cute and neat, or because

you like to hunt and fish a lot, perhaps you should reconsider. (I say "perhaps," because you may survive the jolt and enjoy what you've gotten yourself into anyway—I did.)

The sad truth is that wildlifers work far more with people and paper than they do with real live animals. Also, they tend to be overworked or dedicated (both, usually) and work long hours while their 8-5 neighbors are out hunting, fishing and enjoying nature.

A second warning: If you don't like people and don't have a knack for working with them, or feel you can develop it, a career in any of the natural resources will probably be a mistake. That includes not only the pleasant, responsible segment of the public (bless 'em!) but also the obnoxious, ignorant, bellicose segment.

As is true of most jobs in the biological field, the work isn't nearly as romantic as many people think. Television shows have perpetuated the myth of the kindly plaid-shirt of in the boonies somewhere nursing a bear back to health or studying gorillas in the steaming jungle. Those glamorous things happen (though even they involve their share of failures, frustrations and other unpleasantness which seldom appears on screen), but they're the highlights, not the usual fare. You're much more likely, depending on your precise position, to be counting deer pellets, writing Pittman-Robertson project reports, analyzing pheasant kill statistics by computer, writing time and activity reports, giving talks to school groups or sportsmen's groups, telling folks how to get rid of the skunk under their porches or the squirrels in their attics, answering questions on hunting seasons and laws, spending

sleepless, seemingly endless nights on patrol when nothing happens . . . and so on.

Be prepared to have your idealism quickly turned to cynicism, too, especially if you're in the law enforcement end. Your faith in your fellow man may be sorely tested.

You've got to believe fervently enough in the importance of what you're doing to stay dedicated and enthused despite all the dull days and all the frustrating ones. There's *always* someone complaining about you or what you represent; you need enough dedication and internal fortitude to keep on despite the harassment.

You might be getting the idea that to be a wildlifer, you have to be slightly masochistic. Maybe that's true. You probably aren't going to be much of a hero among your neighbors—you might be, but don't count on it—and you won't be getting rich. There *are* plenty of job satisfactions, but you should think long and hard about whether those will satisfy *you*—and your future spouse.

EDUCATIONAL REQUIREMENTS

Virtually every wildlife position requires at least a high school diploma or equivalent. Most require more.

There are a few manual labor jobs which require no special educational background. They're important jobs and will require hard work and ingenuity. If that's what you're looking for, fine. If you're aiming to be a conservation officer, biologist, or similar specialist, you'll need more schooling.

The requirements for Pennsylvania Conservation Officer (game protector or land manager) include a high school education. That's all that's formally required, but the competition is so keen, and there are so many bright young men and women who *do* have college degrees, that it's getting tougher all the time to get into the training program with only a high school education. For example, the 16th Training Class had 1900 applicants for 29 openings; all but five of those accepted had at least some college, and two had master's degrees. For the 17th Class, there were 1,650 applicants for 24 openings; all but two of those accepted had education beyond high school and one had two master's degrees.

Some states formally require an associate degree (5 states) or bachelor's degree (14 states) for their conservation officers; in other states, it may be a *de facto* requirement. A college degree doesn't necessarily make a person a better conservation

SEVERAL OF THE WILDLIFE specialists: professor, biologist, aide.



officer (it may, or it may even hinder him if he or his associates get hung up about it) but it definitely makes him more competitive, other things being equal. In states which formally require college work, it will have to be in wildlife management, biology or a related field; for strictly competitive purposes, it might be in any field.

Requirements for state wildlife biologist vary, from high school plus several years of experience to a master's degree or Ph.D. plus experience. The usual is a master's degree in wildlife management. Foresters need comparable education. Some states have biology or forestry technicians who are high school graduates or associate degree holders.

TYPES OF JOBS AVAILABLE

Most people, when they think of a wildlife career, think of two specialties: law enforcement and research. But many other specialists are needed in wildlife work. Take a look at one of our annual reports (printed in the January issue each year) and you'll get some idea of the variety of work involved in managing wildlife. There are also jobs related to wildlife which you can pursue in private organizations or on your own. You could be a freelance writer or artist, for example; you could become a professional lobbyist, manager or fundraiser for a conservation organization such as the National Wildlife Federation or The Wildlife Society. If your talents are clerical you could seek a job as secretary or receptionist for a government agency or private organization working for wildlife.

The job types are almost endless, though you may have to look hard for some of them. If you want a job in wildlife, be flexible—your chances for employment will be vastly improved.

With your mind wide open to all the options, you'll also be better prepared to surmount the next difficulty: a shortage of jobs. For several years, aspiring wildlifers have far outnumbered wildlife jobs. And the lower the educational level, the fewer graduates are able to land those jobs.

To quote a federal publication on conservation careers:

"Competition is expected to remain heavy and hiring levels low . . . Competition will remain so high that only eligibles with the very top ratings will be referred for agency consideration."

SALARIES

As I mentioned, you're not likely to get rich in this field, no matter what your specialty. Pay scales have gone up quite a bit in recent years. Some wildlife agencies have come under collective bargaining. Pay, depending on exact position, number of years on the job, etc., varies from the margin of poverty to adequate for someone supporting a family. I don't know any rich wildlifers—not even any moderately wealthy ones. Just as an indication, here are beginning salaries for several positions, from a 1977 survey of states, federal agencies, universities and private companies. (Bear in mind that these don't include fringe benefits, which may be significant.)

Fish & Wildlife Service,	
biologist aide	\$ 7,408
biologist (B.S.)	9,303
biologist (M.S.)	11,523
Environmental Protection	
Agency, biologist (M.S.)	9,303
University, asst. prof. of	
wildlife (Ph.D.)	\$11,500-18,000
State, wildlife biologist	
(B.S./M.S.)	7,592-13,896
conservation officer	
(high school or B.S.)	6,600-14,520
publications	
specialist	8,520-17,999
Private industry (a 1973 figure, broken down only to the level of "life scientists" which includes biochemists, medical technicians, etc. in addition to wildlifers)	
(B.S.)	\$8,500 average

JOBS WITH THE PGC

Chances are slim—but not nonexistent—that you will find a job with the Pennsylvania Game Commission. There just aren't that many jobs, and we have an extremely low turnover

ate. Once a person gets a job here, he tends to keep it until he dies or retires. Even the seasonal workers and part-time laborers keep coming back. But some people do leave, and some retire, and occasionally a new position is created (or lost!). The situation, I understand, is much the same in other states.

Most non-clerical positions are filled by men who take the state Civil Service exams and then are graduated from our Training School. The Commission accepts 20-25 persons for training as often as necessary, usually every two or three years. Formation of a class is announced in local newspapers and through Civil Service offices. Technical personnel (biologists, foresters, surveyors, etc.) are also hired from Civil Service lists. They are expected to already be trained in their specialties, but some may also attend an abbreviated course at the PGC Training School.

Clerical personnel are hired directly by the Harrisburg office or the field office involved, in conjunction with the Governor's personnel office. For most laborer positions, you should contact the immediate supervisor; for example, to work on a Food & Cover crew, talk to the land manager in your area. His name is available from your district game protector or from one of the six division offices listed in the back of GAME NEWS on alternate months. To work at a game farm or the nursery, contact the supervisor there; these are also listed in the back of GAME NEWS. Remember, though, very few positions are open.

JBS WITH OTHER AGENCIES

Here are the first steps in applying for other jobs:

Federal: Go to a federal job information office (in Philadelphia, Pittsburgh, Harrisburg; or call the toll-free number listed in the Yellow Pages) and ask for Announcement 421, "Life Sciences: Opportunities in the Federal Government" and Form SF-171, the application form. The announcement describes the types of jobs available, the requirements for each, and how to ap-

ply. The basic scheme for most federal agencies is that you fill out the 171 (which may take quite a while; I suggest you make a copy before you send it in so it won't take so long the next time), wait till an opening is announced in your field, and quickly send your 171 to the appropriate center. You will be placed on the federal job register in some order of qualification. Positions are filled from the top of the register. Some agencies work differently, and it may get complicated. Between the nice folks at the federal employment office, Announcement 421, and the agency involved, you should be able to flounder through. If not, you probably wouldn't have liked government work anyway.

Other states: Most, like ours, hire from a state civil service list. Some require that you be a resident (and a native, or almost one) of that state; others might not require it but you don't have much chance if you aren't. The degree to which they stay in-state for technical personnel varies. Be familiar with the organization! It's not going to make any points if you write to the Fish and Game Commission if that state has a Department of Environmental Resources. An investment of \$3 will get you the current *Conservation Directory* from the National Wildlife Federation, or you can use it at a library for free. It's a goldmine for the jobseeker. It has names, addresses, phone numbers, etc., for all state, federal, territorial, Canadian provincial, and major private non-profit conservation agencies.

Private companies: The procedures vary. The best bet is to ask around, find out what companies exist, and go to visit them; call or write a letter if you can't visit. These may be consulting firms or large companies with their own environmental departments.

SOME PRACTICAL HINTS

Here are a few suggestions to increase your chances of finding and landing one of those precious jobs:

- Get experience in any way you can. Try to get work in a state or na-



BIG PART of any wildlife job.

tional park in the summer, or as an aide or technician for a wildlife agency. Volunteer if you can't find paid work. Some states require previous experience, and it never hurts. Agency heads have told me numerous times that, given two applicants of equal qualifications, they'll take the one with experience.

- If you're interested in "warden" work, you might consider applying to become a deputy game protector when you're 21. It's virtually volunteer work, but a good way to find out if you and a wildlife career are suited for one another. If your district game protector has openings on his deputy force, discuss your interests with him.

- Join wildlife-oriented organizations so that you can meet or learn of your potential employers, and vice-versa. Pennsylvania has state chapters of the major professional organizations, including The Wildlife Society. The national organizations of these societies may also be helpful, if you can afford them. Local organizations, such as Audubon Society chapters, often include conservation leaders among their members. Go to all the meetings you can afford, and don't be shy; talk to people you want to work for. You don't have to ask them for a job right there. Just let them know you exist and that you're interested enough in the field to attend professional meetings. You can make a

lot of valuable contacts. And professional society membership looks good on your resume, anyway.

- Whenever you can, go in person to inquire about a job. Employers are more likely to remember you if they have a face to connect with your name. Second in advisability is a phone call. If you don't get the job, at least you've made another contact.

Wildlife agencies tend to be rather conservative, so I wouldn't suggest wearing jeans and T-shirt or thongs and a halter top to an interview. Most are less than enthusiastic about long hair on men. Look wholesome.

- For most wildlife agencies, it is a fact that if you don't hunt or haven't ever hunted, you're not too likely to get a job. Hunting is an important tool of wildlife management, and you don't understand it—or don't approve of it—you will have difficulty working with your public, most of whom hunt. Besides that, hunting began the organized conservation movement in this country, and started most of the state and federal wildlife agencies, so it's natural that the hunting tradition is strong. If you are opposed to or just don't care for hunting, I'd suggest looking to a private agency, consulting firm, zoo, etc., or to a highly metropolitan state where ties with the land and wildlife hunting are much weaker.

EQUAL EMPLOYMENT

Where do women and minorities find in? You may have heard that being black or a woman will make employment certain, because of affirmative action programs. Maybe so, but don't count on it. I'm a female veteran, and no one got trampled in the rush to hire me. Federal and state agencies espouse "equal opportunity," but in the past they've been staffed almost entirely by white males. Few women, blacks, and other minorities have been attracted to the field. And there has been and still is some resistance to them by many employees. It's a curious sort of love-hate relationship: they want you but they don't want you.

The balance varies from place to place; California, for example, has hired women in field jobs for many years, and New Jersey has at least two women biologists I know of. Some states have female wardens, and some have black male wardens. The number is increasing, and, as more of them apply, more will be hired.

It's a rough road for the first few minority employees in each agency; it requires sensitivity to your co-workers, an ability to understand and respect where they're coming from, healthy self-esteem (but *not* aggressiveness or arrogance), and excellent professional qualifications. Not to mention huge reserves of patience. The further from the traditional role you venture, the more difficulties you may expect; it's easier, for example, to accept a woman or black as a writer or photographer than as a warden, forester, or biologist. Old ideas are hanging, and as more well-qualified minority persons enter the field, the picture gets brighter. But don't expect things to change overnight, either in the agency or in the public with which you deal. This field is not for the zealous, crusading, overly sensitive feminist or lack-power advocate. You'll be miserable and everyone around you will be miserable unless you approach your precious job with tact and understanding. Once you prove your professionalism, you'll be accepted pretty well, but with the public, you have to prove that every day.

After all that, I have to say that things have been pretty easy for me. The problems are subtle, and many of them partially or wholly of my own making. There are also some advantages to being a minority person in a profession.

SUMMARY

In summary, I'd like to leave you with the following thoughts:

Be realistic. Don't expect glamour and riches, and don't expect to find agencies fighting to hire you.

Be flexible. The greater your flexibility in what you'll do and where

you'll work, the greater the chances you *will* work.

- Be persistent. If you want to work in the wildlife field more than anything else in the world, you'll eventually find a niche. It may even take several years, but if you want it enough, you'll find it. Meanwhile, many less dedicated jobseekers will have turned to other fields. (It's easier to be dedicated, of course, if you don't have a family to support.)
- Get as much education as you can. A bachelor's or master's degree in biology or wildlife management is a good goal; other specialties may require special training, such as a degree in journalism, surveying experience, etc.

GOOD LUCK!

Selected Publications

(Single copies free unless otherwise noted.)

General Conservation

Conservation Careers. 1975, 11 pp; National Wildlife Federation, 1412 16th St., N.W., Washington DC 20036. *General information.*

Life Sciences: Opportunities in the Federal Government (Announcement 421). Updated periodically, 9 pp; U.S. Civil Service Commission, Washington DC 20415, or from any U.S.C.S. office. *Described in text.*

Conservation Directory. Updated annually, 264 pp (1978); National Wildlife Federation, 1412 16th St. N.W., Washington DC 20036, \$3 ppd. *Described in text; a goldmine for the active job-seeker.*

Wildlife Conservation/Management

Careers in Wildlife Conservation. Rev. 1974, 36 pp; Olin Conservation Dept., East Alton IL 62024. *One of the best descriptions of duties and requirements for various wildlife careers.*

Planning a Career in Fish and Wildlife Management. (Recent revision), foldout leaflet; PGC, Box 1567, Harrisburg PA 17120, or from any PGC office. *Excellent brief guide prepared by Int'l. Assoc. of Fish & Wildlife Agencies.*

A Wildlife Conservation Career for You. Periodically updated, foldout leaflet; The Wildlife Society, 7101 Wisconsin Ave. NW, Washington DC 20014. 1-10 copies, 50¢ each. *Similar to previous brochure.*

Selection, Training and Duties of a Pennsylvania Game Protector. Periodically updated, foldout leaflet; PGC, Box 1567, Harrisburg PA 17120. *As described in title; lists requirements, tells how to apply.*



WOODLAND THOUGHTS

BY LOU HOFFMAN

Wildlife Education Specialist

December carves off her twelfth of the calendar in the most joyous fashion of any of the other months. Christmastime may have something to do with that but there's more I'm sure. Maybe it's the deer season . . . or the first good snow . . . or the beginning of winter . . . or long nights filled with the sounds of owls . . . or the anticipation of the new year. In a "winding down" way let's look at the eclipse of 1978.

DECEMBER, early on, offers the deer season filled with memories kindled by subtle things. There's that unusually early start—like 4:30 a.m.—that took forever to get here. The long walk in the dark . . . the cold biting at anything it can latch on to . . . the waiting . . . sometimes, when it's all over, there's even some vension to show for all the effort. But not usually.

December gives us the enjoyable snows of the season. They're fresh and new. Later storms will grow old like summer's heat or fall's frosts. The lighter ones will be dry and drifty, filled with icy blasts. But these early snows are fluffy. They coat bare gray branches with a layer of newness that's as pretty as the foliage of a few weeks ago. They purify and dress the upcoming season with crystalline cover.

December nights are the longest of the year but the stars outweigh the darkness. There's beauty in a dark still night. Horned owls jar the stillness and

pump their sounds into the dark. Their hoots froth off the treetops like water cascading over rocks.

December winds rock the white pine more than the fall breezes, but the branches give and sway and muffle their underlying power. Bare hickories and oaks answer the gusts with howls. Both make sleep come sooner, though I try to lie awake and listen.

December welcomes winter and in short fashion the old guy moves in quickly. He takes advantage of a low hanging sun and beats all of our state with an arctic lashing. In fact, in the minds of some, the last two years found him wearing out his welcome rather quickly.

December pulls the curtain on the year tallied by our calendar but opens the door on the extended seasons for grouse, rabbits, hares, squirrels and the deer. Since we've hunted them earlier there seems to be a more relaxed pace this time around. Young folks get a taste of the easiness normally reserved for the seasoned veterans.

December is a time to contemplate a year's worth of work and play, and focus on the new year ahead and all our resolves to do better.

And she's much more. To each we gives December some notice, much more is given in return. May the wild things and places of Penn's Woods give you the season's best.

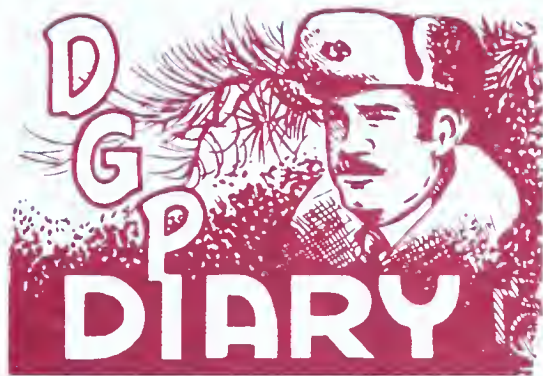
BY THE TIME December's snow begins, game protectors are tired and punchy from long hours, little sleep, nagging problems and constant decisions. And our tempers become a trifle short sometimes, so have patience. Unfortunately, we are constantly bombarded with the ugly side of hunting and it is always refreshing to run across sincere members of SPORT, their orange buttons flashing like rays of hope in the winter sun.

December 3—I had just gotten home from a long day of patrol and managed to settle down for a bite of supper when the phone rang. It was Stan Whittaker; he had just been called by a worried housewife whose husband was long overdue from hunting. The man had some medical problems and his wife was afraid something had happened. She asked Stan if we would go up to the Game Lands to look for him. It was a cold, miserable night and road conditions were terrible. After wandering around the Game Lands for a couple of hours, my wife radioed to report that the man made it home okay. He'd had car trouble. Since we were already out, we continued on night patrol, but to no avail.

December 4—Trainee Jim Donatelli arrived this afternoon. He will be spending his final two weeks of field training with me. He couldn't have come at a better time. A whole stack of unfinished prosecution reports lay on my desk, and guess who got the honors?

December 6—Today we became involved in a rather unusual case. A person shot a coyote on his mother's farm the first day of deer season. He even called and reported killing the animal. But coyotes, like foxes, are protected during deer season. The carcass was at a taxidermist so I went and I picked it up and drove over to Penn State University to obtain a positive identification. If the carcass is adjudicated dog, there is no violation, but if it is an eastern coyote, that's another matter. The coyote is an interesting predator from the standpoint of woodchuck control alone, not to mention its value as a furbearer. It deserves reasonable protection during deer season.

December 7—About noon my wife called on the radio to tell us that Deputy Don Meachem saw some nonresident hunters with a doe. Although he talked to the men, Jim was working at his regular job and didn't have the time to apprehend them. They did recognize him as a deputy,



By Jack Weaver

**District Game Protector
Tloga County**

though, so Jim told them to call me. One of the hunters finally called my wife to report finding the deer, just a few minutes before we pulled into their camp where the deer was being gutted. DGP Frank Bernstein also arrived. We questioned the men and they claimed they found it along the road and that they just wanted to bring it in for the game wardens. But something didn't seem just right. We took them back to where they said they found it and the whole story was there in the snow. The doe had been shot from the road while in her bed. Two men dragged her down near the road and hid the carcass behind a fallen tree. Meanwhile, it was covered by a skiff of snow. Our suspects claimed they saw her lying there when they drove by, but that was impossible. Still they stuck to their story and claimed they hadn't been in that area in the morning. We took the information and let them go for the time being. That evening Deputy Meachem called and said some schoolchildren waiting for the bus had seen these hunters near where the deer was killed that morning. So Donatelli and I picked them up and brought them before the district justice in Elkland where charges were filed for illegal possession. The hearing was set for Friday.

December 9—Donatelli and I had just gotten in around midnight when Stan Whittaker and Leonard Worden called on the radio. They had apprehended three hunters fleeing with a button buck in the trunk of their car. They were just about a quarter of a mile into DGP Bill Bower's district in Bradford County. Bill responded to the call and escorted the violators to the district justice in Troy. Unfortunately, knowing Bill, he isn't about to let me forget that my deputies picked up our only night case of the season in his district.

December 10—This afternoon we attended the hearing in Elkland on the deer case we had earlier in the week. The defendants didn't show up, but neither did the schoolchildren who saw them at the scene, so we lost the case anyway. The judge felt there was too much circumstantial evidence and not enough conclusive proof. Although I'm convinced the defendants were guilty, the judge is right. The American justice system provides for a third impartial person to listen to the evidence presented against the accused and that evidence must be proven beyond a reasonable doubt. It is hard to recreate, in the sterile atmosphere of the courtroom, all of the intricate things which occur in the field in a case such as this.

December 13—We have been working late into the night all week, looking for illegal night hunting, but we haven't come up with a thing. But most folks know we're out there—somewhere—and that fact alone has undoubtedly saved a lot of deer.

December 14—Jim and I picked up a collection of tanned furs from the Division Office and today we stopped by the Blossburg Elementary School. We had in mind just talking to a few classrooms of youngsters, but before we left we had been into nearly every classroom in the building, explaining about furbearers and trapping.

December 15—This morning Trainee Donatelli had a chance to demonstrate his speaking abilities. We put on an assembly program for the entire Williamson Junior and Senior High School. The subject material was hunting ethics and safety. Not bad topics, considering tomorrow is the first day of antlerless season.

December 16—The day started off well. Jim and I apprehended an individual hunting deer over a baited area on Maple Hill. Acting on information from some concerned sportsmen, we had checked the area earlier in the week and found several ears of field corn lying near a tree stand. Deputies Dave Darby and Stan Whittaker spent most of the day investigating a hunting accident just a few hundred yards from my house. Other violations included loaded guns in vehicles, untagged deer and a 6-point buck shot in mistake for a doe. The law provides that if a hunter makes such a mistake and immediately turns it in, only a \$25 penalty is assessed instead of \$200. Also, Darby and Whittaker apprehended a couple of men hunting in the middle of Tioga County with Lycoming

County doe permits. We ended up with an office full of sad and angry people. After all, no one enjoys being arrested. To make matters worse, we were late getting there because a Philadelphia hunter thought his son was lost in the mountains. Acting on a hunch, we checked back at their hotel. Sure enough, the boy got tired and hitchhiked back without even leaving a note on the car advising a by-now terrified father where he was.

December 18—About 11 p.m. the office finally cleared out. Donatelli and I have been out patrolling ever since, in case someone forgot the season closed. About 1 a.m. Frank Bernstein called for assistance. He had to respond to a phone call from a lady who lived in a trailer near Elkland. Her brother had dragged a deer into the kitchen that night, gutted it out on the floor and then left, leaving her with a bloody hindquarter. She was convinced the deer was illegal and wanted Frank to pick it up so she wouldn't get into trouble. About 3 a.m., after Frank finally got to bed, the brother came banging on the door demanding that Frank give back his meat. He claimed it was from a legal deer and Frank couldn't prove otherwise, so he gave it back. What a life!

December 24—This evening a farmer shot a deer for crop damage. He didn't want the animal so I picked it up and took it to a local family I knew was having a rough time. They thought it was a pretty good Christmas gift.

December 30—The cycle continues the life of a rural DGP for still another year. Dave Darby and I have already been checking the head of Tioga River for beaver signs. The routine doesn't change that much, but the individual cases and events will always be fresh and interesting to the persons involved. That's what makes a job like this so fascinating.

* * *

This is my last DGP Diary column. I hope you have enjoyed reading my contributions as much as I enjoyed writing them. By the time you read this I will be working in the Harrisburg office as a Wildlife Education Specialist. I am already working on a series of trapping articles which are scheduled for GAME NEWS in 1979. Mike Schmit, game protector of Berks County, will be writing DGP Diaries based on his experiences in southern Pennsylvania. I'm sure you'll find them interesting.

IT'S DECEMBER. The year is swinging shut, the land is dusted with snow, and it occurs to me that we've not been properly introduced.

Maybe you're getting to know me from this column—or maybe you're just entertained by it, and I'm writing for nothing more than the pleasure of crafting a tight paragraph and getting onto paper something I've been carrying inside. I don't know, and I'm not sure it's important.

But a little about me. I live in Centre County in the geographic heart of Pennsylvania. I live in the heart of my outdoor life: in hunting, camping, keeping bees, watching foxes and fawns and owls and swallows. I live in the truth these activities reveal: truth that comes like summer lightning, flickering before suddenly, briefly, illuminating.

As I write this, I am 27 years old. I live in a cottage on a farm—not a working farm (although a neighbor leases the fields and keeps them in corn and alfalfa), but a farm owned by a university professor. Off one side of the property rises the slope of Tussey Mountain, a rocky, wooded ridge that begins in a cluster of sandstone ridges a few miles to the north, runs south, and peters out near the village of Flint Stone, Maryland, some 90 miles away. At the moment, Tussey is brown and barren, with a hint of snow through the trees; during other seasons it can be pale, fuzzy green, a hazy, dimensionless blue-green, or a composite of reds, yellows, oranges, and browns.

I suppose I like it best in autumn, when the patchwork colors change overnight, the hues strengthening or wakening under the vagaries of temperature and light. I like it when cloud shadows hang in the hollows, when I find no trouble to get up at dawn, to see how the night's cold has affected the world and go hunting upon it.

I enjoy hunting but admit I'm no great shakes at it. I'm not too bad with a rifle, but the shotgun, with which I did most of my hunting, baffles me. Sometimes I make amazing shots on speeding, dodging game birds, but more often I miss even the easy chances, which frustrate me the most. I've been hunting less than ten years,

Thornapples



Chuck Fergus

though, so a lot of seasoning lies ahead, and the fact that I make some of those instinctive shots gives me hope.

I do not come from a family of hunters. My father is a botanist who probably has not picked up a gun in 30 years; and my mother, although raised in rural Kansas (*her* mother, a sturdy pioneer sort, is supposed to have shot out the lantern of a man doing something undetermined but apparently illicit in the family corner), may not even know the difference between a rifle and a shotgun.

Still, they did their part by never discouraging me from hunting, camping, or doing scores of outdoor things that must, at times, have seemed strange and unproductive.

It's interesting that I became a hunter while two close friends, whose backgrounds should have propelled them in that direction, did not. One lived on the banks of Pine Creek in northern Pennsylvania with a father who hunted and a grandfather who raised bird dogs and was a crack grouse shot; and while this friend developed a keen appreciation for nature, he has none of the instincts of a hunter. The other friend grew up on a farm tucked into Sugar Valley, a few ridges north of where I live, and now works nine-to-five in downtown St. Louis. So much for nurture.

As well as actually hunting, I also put in time thinking about hunting—why I do it, why I both enjoy it and am disturbed by it, and why I would find it



easier to give up almost anything else. Some things I like about it are easily expressed. Others are impossible to tell outright, although I have enough faith in writing to think that if a scene embodying some part of hunting (or of anything, for that matter) is judiciously described, the reader will feel what the writer feels and won't need to be told. Not that I'm good enough to pull this off consistently, if at all.

But, as I said, some of the good things are easy to tell. For instance, the fact that hunting is a leveler, like going to war, competing in sports, or climbing mountains. I've hunted with biologists, bureaucrats, farmers, teachers, students, salesmen, laborers—some well-off, most not—and the hunting made us more alike than different.

Friendly and Unassuming

Almost all the men and women with whom I've hunted have been friendly and unassuming, maybe because hunting tends to attract such people, or possibly because it molds them. If I start the day neutral toward a fellow hunter, chances are by noon I have an idea of his essential nature (and he of mine) and by the time we case the guns and get the dogs in the car, we are friends.

Other hunting things I like are the lines of side-by-side, straight-stocked shotguns and those of pointers with

picket-fence ribs. I like rabbits especially when combined with beagles, the flight of woodcock, and the way a cock pheasant stares with defiance at a moving truck and scuttles unashamed into the no-man's-land of brambles at a wild rose when I stop the pickup and get out.

I like the basic action of walking, putting one briar-scarred boot before the other. I like hiking stony mountain sides where my ankles are tested, but the pain is temporary, and the grouse has the odds stacked their way.

Beyond hunting in particular, I like the clean smell of a dazzling fall morning; the clanging, pipe-tobacco smell of silage; the pungent smell of first rain drops. I like the cries of birds, from the plain rattle of a chipping sparrow to the rolling, strident gobble of a wild turkey. I like sweating hard, swinging a mallet, looking in the truck mirror at dust billowing off a country road.

But most of all I like my friends like one for the bullheaded way he shoves through brush to roust game; his blunt, almost callous speech; for the way this shell falls away when we get into the evening, talk of the day's hunting, and finally fall silent. I like another for her simple wonder at all things in nature and her ability to sense, understand, and accept. A third for her softspoken competence and total lack of pretense.

It should not surprise you to learn I so have my share of dislikes, although the list is not as long as the one of likes. Included are snowmobiles, trail-bikes, and other such contraptions; unnecessary roads (to my mind, the vast majority of those being built today); the spiteful, illogical advertising to which we're subjected; and regulations and red tape that impede rather than serve.

Web that Threatens

I see a host of things forming a web that threatens land, wildlife, and the quality of living. Demand for goods, services, and conveniences. Vacation homes built in what were once woodcock singing grounds or marshes or deer paths. Popular forecasts that say we'll continue to grow or consume at our present breakneck pace—without thought to restrictions, voluntary or otherwise—and the refineries, power plants, factories, and shopping plazas built to keep up with the predictions and thus encourage them.

Sometimes the web gets me. I talk to people who share similar concerns, and the more we talk the gloomier I get. At the bottom, I keep coming up with the conviction that the mass of people in this country are oblivious to problems that don't affect them directly; and that those in authority will never really care about vanishing species or habitat or the consequences of pesticides, dams, and superhighways. Tied to this is a sense of individual powerlessness that can actually make me sick to my stomach.

I don't succumb often. Usually I immerse myself in the good things at hand. In winter it will be snowshoes and skis, and when the season turns it will be spring mushrooms and drumming grouse, but sometimes it gets to me.

And then there are thoughts to dwarf earthly concerns, thoughts of the desolation and death to which all life must yield. Their impact goes beyond simple dislikes and dislikes, loosing a chill shower of realization. They lift me up and slam me down and leave me alone and bleeding. They clear my eyes and make my soul receptive to the simplest aspects of life and existence, now infinitely precious.

We go our own ways in this business of living life and pursuing meaning, but the ways that take us back to nature and land have always seemed most sensible to me. Some of us hunt, some watch birds or photograph wildlife, some struggle to the highest mountains. Some of us write, and many of us fail.

But maybe I break my writer's rule by telling you this. Better to let you feel. Better to let you call on your own sense of the fullness and void that somehow coexist in nature.

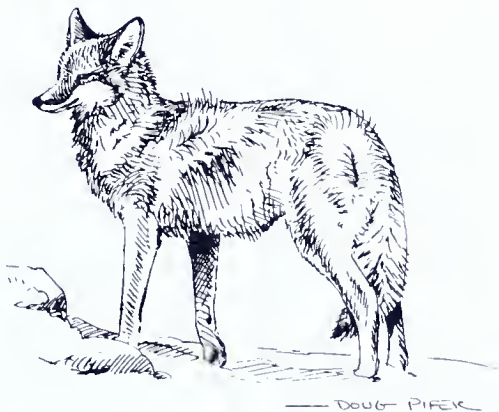
I will write you one last scene, and maybe you will know me, knowing through me.

It is May in the Absaroka Mountains of northern Wyoming. A young man and woman sit in the darkening kitchen of a log cabin.

In the kitchen are a table, two chairs, an enamel wash basin, and a black cookstove. The woman lifts the lid off a pot on the stove, stirs the contents, and replaces the lid. She ignores the man, who sits before the stove with his bare feet propped on a piece of wood in the oven.

They have spoken but briefly since the man returned a half-hour earlier; the woman is hurt because the man spent the day walking the surrounding mountains, leaving her alone. The man tried to explain that he didn't *not* want to be with her, but that he needed the day to be with himself.

Now he is remembering something from the afternoon. He had just gained



the edge of a long, narrow saddle between two peaks. Shivering, he squatted in the snow. He looked out on the vast sweep of snow and peaks and clouds and felt he was close to something real and important.

Gradually he became aware of a gray shape on the edge of his vision. He turned his head and saw it was a coyote.

The coyote stood broadside, apparently having crossed the saddle from the opposite slope. Its eyes riveted on the man. The man was excited. He had never seen a coyote so close. He saw its

dense fur rippling in the breeze, bits snow high on its forelegs, and its bushy tail. He felt lightheaded and had to suppress a giggle. He shut his eyes and imagined himself leaning back, leaning into space, letting go, falling. When he opened his eyes, the coyote was gone.

Now, in the cabin, the man watched shadows dance on the walls. He realized the woman has lit a lamp. He feels the warmth of the stove and smells the food. He knows he must make the move back.

"I saw a coyote," he begins. . . .

Books in Brief . . .

(Order from publisher, not from Game Commission)

Mauser Bolt Rifles, 3rd ed., by Ludwig Olson, F. Brownell & Son, Montezuma, Iowa 50171, 364 pp. large format, \$24.95. The Mauser is the direct ancestor of most of the outstanding bolt action rifles of the world. Olson has spent a lifetime studying Mauser rifles and in this big book presents authoritative data on the development of this classic gun design. After some historical background on the Mauser brothers, Paul and Wilhelm, Olson gives extensive technical information on models from the blackpowder Mauser/Norris 67/69 to modern centerfire and rimfire Mauser sporters. The Model 98, the most popular Mauser of them all, is of course covered in detail. Numerous excellent photos and drawings illustrate and/or clarify important points. As with the Mauser rifle, this book is a classic in its field.

The Free Food Seafood Book, by Peggy Ann Hardigree, Stackpole Books, Cameronsville, Pa. 17105, 228 pp., paperbound, \$6.95. Tells how to fish, gather and cook lobster, clams, crabs, shrimp, flounder and more than 140 other delicacies from the sea and the edge of the sea.

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The Hazards of Holiday Gift-Giving

PHISTICATED TARGETRY EXEMPLIFIED by this line at the Harrisburg National Indoor Foot is one reason many advanced archery items are made available.

By Keith C. Schuyler

Photos from the Author

AS THE CHRISTMAS season approaches, it is rare that one can go through a sporting goods store without seeing quite an array of archery tackle and equipment. In fact, some of the general merchandise stores that have an archery section during hunting season hold it over through the holiday.

To the younger generation this is as common as are hunting and fishing displays. But for those whose experiences with the bow and arrow go back some years, it is little short of amazing to note some of the products now available. For the veteran archer, not only is the list of new articles impressive, but their improvements over those used some twenty to forty years ago are astounding. Although archery in its various forms has been around for 25,000 to 50,000 years, only in the last thirty years has it re-emerged as an important activity. Today, of course, the accent is on sport, whereas archery was one time a primary means of defense, offense and food getting.

Perhaps a review of some of the items now available might instill a better appreciation of the advances.

There was a time when either a target archer or a bow hunter could stand up to the line, real or imaginary, and cut loose with just a bow and an arrow. Any accoutrements were likely homemade. In fact, in my early days of archery, even the bows and arrows were frequently manufactured by the user.

In those days before World War II we clung to the generally accepted copies of the old English longbows. They were *self* bows in that the entire stave was of one piece. Arrows were usually of cedar, and the more ambitious made or bought tapered shafts. Flaxen strings were common. They were stretched by suspending a heavy weight from a backyard tree overnight. Each was fashioned with a loop in one end. A timber hitch tied the other end in place as the bow was flexed into some semblance of an arc. Real cow horn tips



A SAMPLING OF THINGS—sights, glues, waxes, arm guards, etc.—that the serious archer is convinced he cannot do without. There's no doubt that most of them add to his efficiency.

from the local slaughterhouse, where offal was permitted to return to nature in a nearby field, served as ends for the bow itself.

Arrow feathers were glued fast and tacked in place in the hope they would remain there. Arrow nocks were frequently little more than depressions in the end of the shaft. Broadheads were primitive and usually had sharp barbs on the trailing edge.

This was what we used in attempts to hit bullseyes and animals. Strangely, we succeeded, after a fashion.

Extra equipment such as bracers, or arm guards, quivers, and arrow stands were equally crude. Hunting clothing was what the average deer hunter was expected to wear when going with the gun. Since we bow hunted in the gunning season, my favorite outer attire included a yellow shirt to make myself visible to other hunters. It seemed less likely than red to attract the attention of a deer. We were not aware in those days that deer are color blind.

It is little wonder that it attracted considerable publicity when someone did actually take a deer with the bow and arrow. Most of us earned whatever we got by a certain amount of skill and a lot of luck.

Now, with Christmas coming up, those bow hunters who survived World War II cannot help but feel like kids in

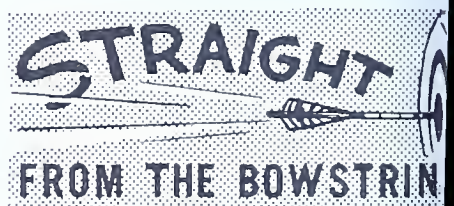
a candy store at the selection of archery tackle and equipment available today. Of course, no amount of fancy tack and equipment is going to make a hunter out of anyone, but it will go a long way toward improving chances that the archer can keep it all together when the right moment arrives.

All of this neatly packaged paraphernalia can be a hazardous temptation for mothers and wives and girlfriends when they go Christmas shopping. They may be safe in purchasing such items as beeswax or boots, but most serious archers today prefer to make their own selection of the basics such as bows, arrows, sights, etc. An out, of course, for the well-meaning but unknowledgeable philanthropist, is simply to buy a gift certificate. The recipient of such largess will be delighted. Not only will he avoid the necessity of faking delight at some junk that he wouldn't buy for buttons, but he also now has a sports goods dealer over a bit of a barrel.

In the first place, he can shop long and surely after Christmas when prices tend to deflate. Secondly, with his superior knowledge about such things he is more apt to make a better deal for exactly what he wants, even if it means adding a bit of his own cash to seal the bargain. Relatives with love in their hearts and loaded purses are ready targets for merchants who must make hay while the snow flies.

Let's take a look at some of the articles that are available now and compare these to the substitutes necessary in the early days for lack of knowledge and the money to prove it.

Before World War II, there were few bows on the market, and they were generally of such poor quality, that an archer was often better off building his own. There was always somebody who could turn out a fair arrow in his basement, but the quality was questionable.



though wooden shafts are still available, in the early days of my generation there was nothing but wood. Since then we have come up through compressed cedar shafts, fiberglass, aluminum, steel, and now graphite. The turkey feathers we fashioned and glued to our shafts are now precut for uniformity, and there are various plastics which we prefer over the adornment applied by Thanksgiving Day birds. There were many other substitutes for the excellent equipment now available.

Sting of the String

For instance, consider arm guards, or bracers. We used to wear enough clothes to avoid the sting of the string on the forearm, and thereby invite fouling up a shot. Or the more clever would wear a fairly tight-fitting garment such as a heavy sweater with cardboard wrapped around the forearm just beneath it.

Arrow rests were practically unknown, and most shooting was done with the arrow sitting on top of the bow that clasped the bow. Today there are countless rests to choose from for both hunting and target archery.

There are camouflage suits today which are so effective that an archer almost needs a map to find himself. Colors vary from the tan-and-yellow dapples of western prairie and canyon country to deep greens of Maine and a modified mixture of greens, browns and chopped-up red for those who like to be seen by hunters and ignored by big game animals. Although some of us went the burnt cork route when we became aware that the human face is an instant alarm to big game at close quarters, today there are more sophisticated ways to disguise the physiognomy. There is still hard-to-remove burnt cork, but easy-off facial creams will do the same job better. The hunter can even go one better and completely cover up his hair and face with a camouflaged head net that has eyeholes for visibility.

Camouflaged hats and caps come in various shapes for coverup and insulation. We once wore what we had for duck hunting or went without headgear.



A HOST OF gadgets that were unheard of a generation ago are now necessities so far as many bow hunters are concerned. This archer, getting in some practice, benefits from some.

There are bow stringers for both conventional and compound bows. These modern developments are highly recommended by all experienced archers to avoid some of the gruesome mishaps which have occurred in the past through improper attempts to string or disassemble a bow. Beeswax is still a safe gift as it provides good protection for any string and will substantially prolong its life if used occasionally. It prevents fraying and keeps away moisture, both enemies of any bowstring.

There is quite a selection of arm guards that are superior to the old method of wrapping cardboard around the arm. Finger tabs, a necessity for practice sessions, come in many varieties. Anything is available, from a simple patch of leather which fits over one finger to gloves with built-in finger protectors that serve double duty in cold weather. The string itself can be loaded with brush buttons and silencers. These don't come in sizes so they're a fairly safe purchase. For the

Deer Kill Report Cards

Successful deer hunters are reminded that their deer kill report cards must be mailed to the Game Commission at Harrisburg within five days of the date of the harvesting of the whitetail. Those filing the report cards are urged to furnish all of the information sought. Failure to file a deer kill report is a violation of the Game Law.

do-it-yourselfers, there is a big variety of gadgets from wooden arrow sharpeners to fletching tools. There are also feather burners, cresters, aluminum arrow cutters, paint dippers, etc. A tube, a stick, or a cake of good glue to fasten feathers and nocks and heads is a welcome addition to almost any serious archer's cabinet. It has been a continuing need since feathers were first attached to arrows, but today's adhesives are far superior to those of a relatively few years ago.

Quivers are available in many sizes and shapes to be worn on the belt, on the back, or on the bow. They are much better than the cardboard tubes we once used. And quieter!

For the target archer there are certainly many varieties of sights, bow levels, string peeps, arrow rests, stabilizers, compensators, releasers, clickers, and probably a few other gadgets now being invented.

Of course, there is a certain amount of junk on the counters, particularly in the discount houses.

Many of the gadgets are used interchangeably between the target line and the hunting scene. But the Shaft Spider is an elongated spool of wispy monofilament used only by bow hunters to follow wounded quarry. The same can be said for a deer drag, a sophisticated bit of rope used to pull the trophy over the ground or snow. Special adhesive

tapes, Allen wrenches, colored fur fletching, anti-moisture agents, lubricating powder, game scents, tree stands, broadheads, first aid kits—have some relevance to archery.

If he or she isn't already a subscriber to GAME NEWS, a gift subscription is sure to please. And one gift which can possibly miss the mark is a homemaker's gift certificate for the 1979-80 hunt license and archery stamp!

An old American Indian, one of King Arthur's men, or an ancient Egyptian might get a real chuckle over all this gadgetry. However, collectively the gadgets have each had a part in bringing archery to a level undreamed of only a generation ago.

It is especially interesting, in looking over the commercial offerings today, to see what products have survived the test of public acceptance since their introduction. Advent of the compound bow has brought out many new adaptations from conventional archery, but total needs have changed little.

Vastly improved target scores today are indicative of the many advances in this phase of archery. Yet, despite the gadgetry and improvements, hunting success has varied little over the past since the first special bow hunting season in 1951. It would seem that skill and equipment have both been upgraded substantially, but woodsmanship and hunting expertise have either remained in place or even slipped backward. Otherwise, the obvious improvements in tackle and equipment would have been reflected in hunting success.

As Christmas falls somewhat in the middle of the bow hunting season, there is certain to be a lot of "field testing" of new equipment in the pre-holiday period. All these pretty presents, if properly purchased, should make it more convenient and potentially better.

Wouldn't it be great if someone could come up with the gift of success for the moment of test?



Shooting Gear for 1979

By Don Lewis

Photos by Helen Lewis

JOHN NOVAK OF FORD CITY helped Lewis test new Mossberg M500 AHT, got excellent results. Slide action trap gun has such features as a high ventilated rib and Monte Carlo stock.

GUN WRITER gets quite a lot of mail, and most of it contains numerous questions. Gun buffs are avid writers, always seeking new information or wanting to exchange ideas. The mail I get proves this emphatically, and I sure appreciate every letter even though I can't answer many. Since my humble efforts fall far short, I crank out a column every now and then covering questions pertaining to new or interesting equipment on the market.

Lead Melter

When an article appeared showing the Lee Production Casting Pot that

holds ten pounds of lead, mail came flying in asking all types of questions about melters. I gathered from this that avid casters were interested in pots that hold a lot of lead. Fortunately, about the time the mail hit its peak, Ohio Thermal, Inc., of Columbus, Ohio, shipped me their Pro-Melt Casting Pot that holds a whopping 22 pounds of lead. With over 100 pounds of lead stored under my casting bench, I didn't waste much time putting the new outfit into operation.

Their literature explained there are two styles. One model is called the Solder Pot. The molten lead is dipped

by hand from this one. The Pro-Melt pot has a bottom pouring spout that permits the lead to flow directly into the mould. Ohio Thermal claims the new pots reflect new types of materials and construction methods. I am sure of one thing—the Pro-Melt is better insulated than other casting pots I've worked with.

The main housing is mostly stamped steel although the lead container or crucible is made from stainless. The housing which contains the heating element and thermostat is supported by two $\frac{5}{8}$ " diameter steel legs. Clearance between the bottom pouring spout and the base plate is roughly 5 inches. This allows plenty of work room. The cylindrical melting pot is just over 5 inches in diameter and about the same in depth.

I didn't try to be exact, but 20 pounds of lead filled the crucible to within $\frac{3}{4}$ " inch of the top. Total melting time was around a half hour, and I found the Pro-Melt to keep a rather uniform temperature. I ran the gamut from a low of 450 degrees to a high of 850 over the course of several evenings, and a temperature setting didn't vary many degrees. I liked the idea of having a red lamp glowing when the element is heating, and then going out when the selected temperature is reached.

I've already mentioned the Pro-Melt is well insulated, and a crude test showed that when the pot was at full temperature of 850 degrees, the outside housing was just over 200 degrees. This is still plenty hot, and care certainly must be used, but on some melters I've used, the outside temperature was nearly equal to the temperature of the molten lead. Ohio Thermal claims the Pro-Melt is hundreds of degrees cooler, and I have no reason to doubt that.

A lot of casters have little time for any type of pouring spout. They prefer to dip the ladle into the hot lead and go from there. Since I'm not a dyed-in-the-wool caster, I didn't have any problem adjusting to the pouring spout. On the Pro-Melt, getting the hot lead through the pouring spout is accomplished by a gravity-operated plug. The control handle has an adjustable

stop to change the rate of flow. Several minor problems arose, but after making a few adjustments, I was back in business.

My only kick with the Pro-Melt was the speed of the lead's flow. With small bullets, I had no problems, but on the really big jobs, I thought the flow rate should be increased. My suggestion would be for those pouring bullets over 250 grains to slightly open up the orifice in the pouring spout. This would increase the flow rate and would fill out the larger slugs.

The Pro-Melt is far from inexpensive, but from all the work I've done so far, I feel it will give many years of trouble-free service. It's well made and has a convenient mould guide that can be adjusted for height. All in all, it's one of the better casting pots I've used, and 20 pounds of lead will cast a lot of bullets.

Hardness Tester

While on the subject of casting, testing for lead hardness has always presented a problem. In the April 1974 column, I discussed Ken Mollohan's method of using inexpensive drawing pencils. With the pencil method, hardness is rated equal to the hardest pencil (6B, 5B, 4, B, HB, F, H, etc.) which does not dig in or scratch the lead surface. For instance, F will cut into pure linotype metal, but HB will not, which makes it a hardness of H. Much-used linotype is softer and will have a hardness of B since HB cuts and B does not. Pure lead is softer than 6B.

I'm certainly not doubting Ken's procedure, as I know it works, but care has to be used when the critical stage is being reached. Since the April column, Saeco Reloading, Inc., of Carpinteria, Calif., sent their Saeco Lead Hardness tester. It has a one-inch body and contains two halves of a vernier scale, also with an indenter and internal spring. It operates by turning a knurled m





LEE PRECISION semi-auto priming tool, above; top right, Lewis tests new Weaver T-25 scope on M700 Remington 308; right, precisely calibrated Saeco tool measures hardness of cast bullet.



LORAY knife sharpener, in action, left, makes it easy to maintain proper angle on cutting edge. Pro-Melt Casting Pot, bottom left, holds 22 lbs. of lead, is well insulated and has a bottom pouring spout. Bob and Dave Wise, below, use both Avtron K233 and Oehler chronographs to check velocity of handloads. Loading manuals give good indication of velocities but chronograph tells exactly what a load does in a given gun.



screw that pushes the bullet against the indenter. The main screw is machined with concentric recesses of 30, 38, and 45 calibers.

It's necessary for the indenter and the surrounding collar to make contact with a flat surface of the bullet in order to make an accurate measurement. In other words, a chunk of lead can't be stuffed between the main screw and the indenter and collar. It takes a bullet with a flat surface on its nose and one that fits one of the three recesses in the main screw. Saeco suggests putting a flat piece of metal against the bullet's nose and squeezing it in a vise until a flat surface is obtained, if it's not a flat point design.

The unit is held in a vertical position, main screw down, and the bullet is placed on the upper end of the main screw. Then, the main screw is turned clockwise until the nose of the bullet contacts the indenter. It's imperative the rotating bullet is turning as true as possible to the centerline of the test unit. After bullet/indenter contact is made, the tester can be turned to a horizontal position with the vernier scale up. The main screw is further turned, increasing the main spring pressure on the indenter until the long centerline of the lower vernier scale lines up with a witness mark on the frame below it.

Depth of Penetration

The depth of penetration of the indenter into the bullet, in relation to the collar surrounding the indenter, is now registered on the vernier. To read, it must be determined which mark on the lower scale *exactly* lines up with which mark on the upper scale. The numerical hardness value of the matched lines is read off an upper scale calibrated from 0 to 10.

According to the instruction sheet, commercially pure lead will give a value of 0 to 1. New linotype 5-10 will show a reading of 9 to 10. Alloys of intermediate hardness will give intermediate hardness values. Although I didn't try blending batches of lead of unknown hardnesses, I'm certain it could be done and the caster could

eventually come up with any hardness of lead desired. I found the whole process time consuming, but knowing the exact hardness of the lead being used is extremely important.

Chronographs

My mail indicates a lot of interest in chronographs, and a lot of shooters and handloaders want to know what really can be gained by owning one. With all the book figures available, why pay out hard-earned cash for a velocity measuring device? I have a lot of compassion for all the doubt and frustrations. I went through it years back, but I settled it by purchasing a Herter Mark VII that used wire screens. The Mark VII uses the binary counting system, and lamps in each of the four rows would light after each shot. Each row was numbered vertically, 8, 4, 2 and 1. If 4 and lit in row one, the first number was and so on. It was a good outfit, but I was plagued unmercifully with bad contact on the screens.

Later, I acquired the now discontinued Avtron K-233 that utilized plastic screens with metallic painted lines. When the machine was turned on, electrical current passed through the screens until a shot broke one of the lines. Breaking the first screen started the Avtron counting, breaking the second screen stopped it. A digital readout was shown on the K-233, and a tab converted the reading into feet per second. The K-233 was a whale of an outfit, and still sees a lot of use.

The drawbacks with any screen-type chronograph are the constant changing of the screens after each shot plus the expense of the screens. Oehler Research of Austin, Texas, put a quick end to these problems with their Model Chronotach and their Model 61 Skyscreen system. It's a very simple outfit. Simply place the Skyscreens at either 5 or 10-foot spacings, connect the start and stop cables to the Chronotach from the screens, flip the starting switch, make certain the Chronotach is set to the correct screen spacing and fire. Reset is automatic, and the Chronotach keeps flashing a digital readout in feet per second until the next shot is fired.

The Model 32 Chronotach measures time by counting the ticks of a very accurate electronic clock. The clock delivers 838,861 pulses per second. As the bullet passes over the first skyscreen, sensors detect its shadow and start the Chronotach counting the pulses. When the bullet passes over the second screen, sensors pick up the shadow and stop the counting process. The Chronotach then converts the number of pulses counted to a velocity reading. This all takes place between six and ten seconds after the shot is fired. The velocity is displayed one digit at a time. Generally speaking, chronographs are expensive, and for all practical purposes, velocities can be accepted straight from the reloading manuals. However, after twenty years of testing velocities with a variety of instruments, I think the investment is more than worth whatever the cost might be. The major reason for owning a chronograph is to compile data. I have pages and pages of data on loads fired through the years. Records of how various loads grouped soon show what primer/powder/bullet combination works best in a particular rifle. I would urge every serious handloader/shooter to use a chronograph.

Priming Tools

I've always been a great admirer of the Lee priming tool, a handy nutcracker type made by Lee Custom Engineering, 46 E. Jackson St., Hartford, Wis. It's simplicity at its best. I have numerous rifle presses complete with priming arms, and also a separate automatic priming unit, but almost invariably I stick with the Lee hand tool for case priming. Now Lee Custom has a revised unit called the Unitized Priming Tool. It's made of durable plastic with an integral shellholder. Since many cases fit the same shellholder, two or three of these inexpensive units will cover the field for most reloaders and do away with the necessity for changing shellholders.

Another priming tool has just been offered by another Lee—Lee Precision, Inc., 4275 Highway U, Hartford, Wis. This is a nutcracker type also, with inter-

changeable shellholders, but is a semi-automatic type featuring a covered plastic tray which holds a box of primers and feeds them into place when tipped. This is a nicely designed tool which is handy for fumble-fingered guys who have trouble getting primers out of the box; it also eliminates the possibility of getting case lube on them.

Trap Gun

Mossberg's Model 500 AHT slide action trap gun should be a welcome addition for the shooter who doesn't want to invest a gun case full of money. It comes with a 30" full choke barrel boasting the extra-high Simmons Olympic-style free floating rib. The stock looks trap shooting all the way with a high Monte Carlo comb and a thick recoil pad.

John Novak from Ford City and I put my test model through its paces at the Ford City Sportsman's Club. John broke every thing that went out, and I had a fair time myself. After passing the slide action around, it was the general consensus that Mossberg had hit the nail on the head with the new edition. Weight is around the 8-pound mark.

Knife Sharpener

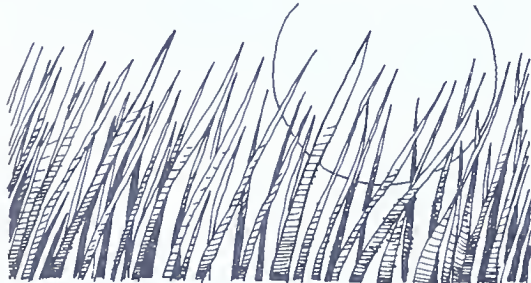
The first buck I killed in Germany after World War II taught me never to go hunting carrying a dull knife. After downing the buck, I dug out the Army issue that was something between a penknife and a screwdriver. I could have done better with a piece of broken bottle. My hunting buddy claimed it was the poorest job of field dressing he'd ever seen.

Knives and knife sharpening are not my specialties, but I recently tested a sharpening device manufactured by Loray Sharpeners, Indian Hollow Road, Grafton, Ohio, that really allows the novice to put an edge on most any size knife. I won't go into details as the photo makes everything clear. I sharpened a dozen or more knives, and got really sharp edges in about three to five minutes. A small bottle of honing oil comes with the kit. I don't know the price, but I do know it beats the old whetstone all to pieces. . . .

In the wind

toni williams

information writer



Chances of setting up an international wildlife range in the Arctic look better. Canada recently announced it had withdrawn 15,000 square miles of Yukon land adjacent to a similar tract in Alaska. The withdrawal limits gas, oil and mineral extraction. They're working on a management plan for the area which not only supports caribou, bears, arctic birds of prey and breeding waterfowl, but also has significant archaeological and paleontological sites.

Modern techniques come to the aid of rare and endangered animals at Texas A & M University/Baylor College of Medicine. Scientists there are freezing sperm from captive wild animals, such as those in zoos. They emphasize it's just a stopgap measure. It's used to impregnate captive females when natural breeding is impossible or impractical. Zoo animals are a precious reservoir for some species which can no longer survive in the wild until problems such as habitat loss are solved.

It's an old saw that when you bring in sewer lines, development's sure to follow. That's probably why some folks are disturbed about the state-approved sewer line through Mason Neck, one of the few undeveloped areas of Virginia's Fairfax County. Many Washington workers live there, and it boasts a refuge for endangered bald eagles. The line is not *planned* to serve more than one development on the peninsula's edge, but . . . Suburbs don't seem to be very good eagle habitat.

Battle is still being waged against the chestnut blight. Recently the U. S. Forest Service's Northeastern Forest Experiment Station received money for a cooperative study of a phenomenon known as hypovirulence. The station's director explains that some strains of the chestnut blight-causing organism are unusually weak, and that these hypovirulent strains may actually help to heal some chestnut blight cankers.

Every so often the U. S. Water Resources Council sits back and takes stock of our water supplies and needs. The recently published report says things look good and bad. With lower-than-expected population increase rates, demand for water is a bit lower than anticipated. But there are still problems. Two of these are the continuing failure to consider fish and wildlife needs during planning, and the dangerously rapid rate of ground water use. The latter has received less publicity in wildlife circles but has tremendous potential for harming wildlife habitat—swamps and caves, for example.

Three cheers for Camden! The New Jersey city's officials have decided on an alternative to the ocean dumping of sewage sludge. They've recognized the practice as harmful, and have to quit doing it by 1981, but they still have to get rid of those wastes. Solution? Processing the sludge into compost. It not only takes care of the problem, but also produces a material useful to farmers and gardeners. Camden is the first major city to replace ocean dumping with cost-effective composting.

Colorado is one of many states including our own—which have sought to restore some of the wild diversity they've lost in the past century or two. This color has chronicled many states' attempts to reintroduce vanished species such as bison and bighorn sheep. Most were funded by state game agencies. Colorado's legislature said it was okay to try a reintroduction of moose, if the state didn't have to pay for it. So Colorado sportsmen and businessmen put up the money for the Division of Wildlife to release four bulls, seven cows and a calf into historic moose range. The herd came from Utah.

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STATE WILD TURKEY FARM—Eugene P. Nelson, Superintendent, Proctor Star Route, Williamsport 17701. Phone: A.C. 717 478-2252

SOUTHWEST CAME FARM—Vernon Veronesi, Superintendent, Box 1, Distant 16223. Phone: A.C. 814 275-2515

STATE WILD WATERFOWL FARM—Henry R. Pratt, Superintendent, R. D. 4, Meadville 16335. Phone: A.C. 814 382-6845

HOWARD NURSERY

SUPERINTENDENT—Ivan Dodd, R. D. 2, Howard 16841. Phone: A.C. 814 355-4434

TRAINING SCHOOL

SUPERINTENDENT—C. J. Williams, R. D. 1, Brockway 15824. Phone: A.C. 814 265-0456.

MIDDLE CREEK WILDLIFE MANAGEMENT AREA

Charles L. Strouphar, Waterfowl Management Assistant, R.D. 1, Sunnyside Road, Newmanstown 17073. Visitor Center: Phone 717-733-1512

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